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MÉMOIRE

SUR

L'INTÉGRATION GRAPHIQUE ET SES APPLICATIONS

PAR

J. MASSAU

Ingénieur des ponts et chaussées, Professeur à l'Université de Gand.

ATLAS

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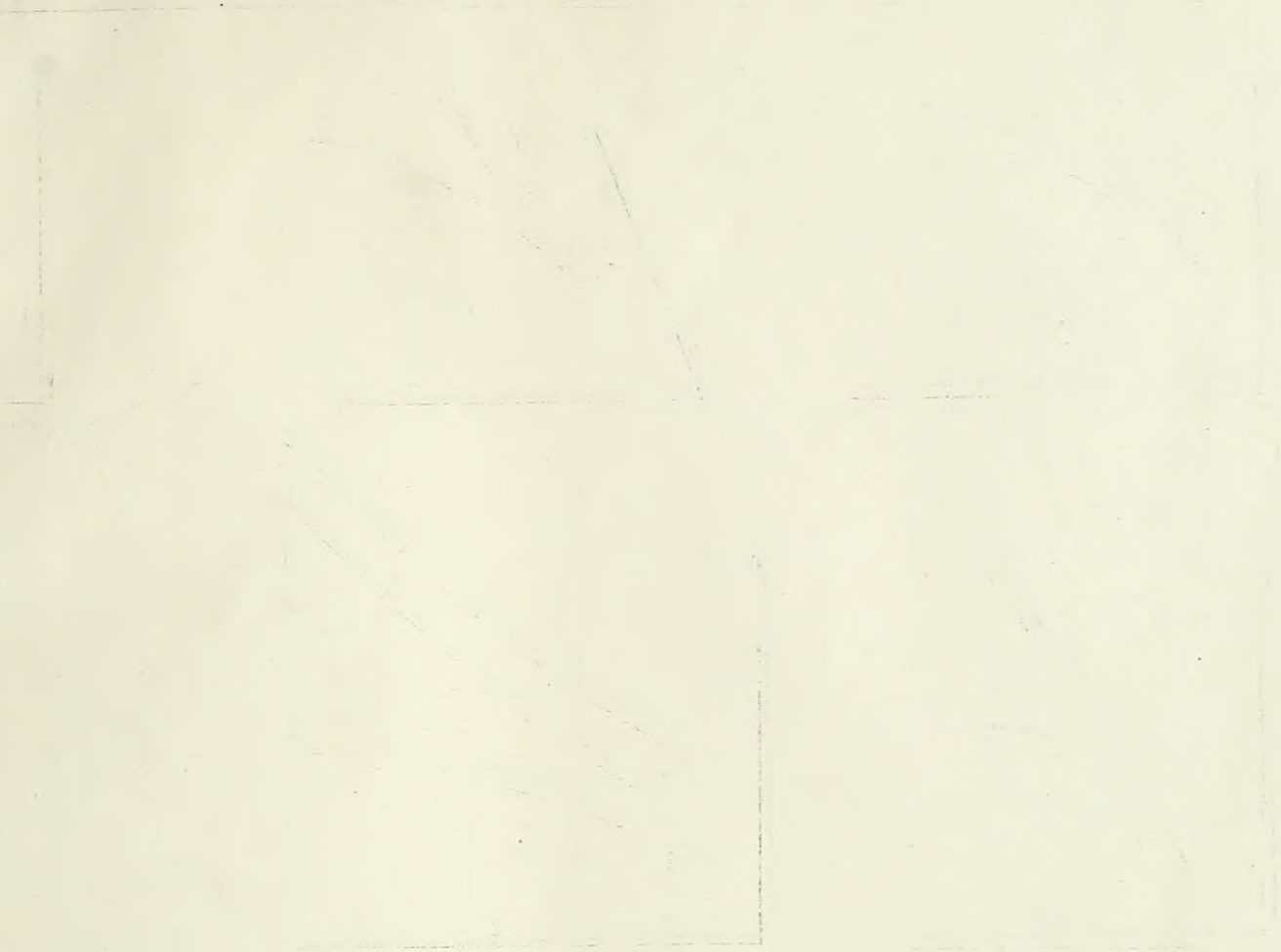
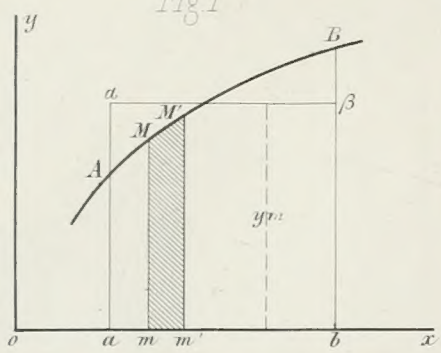


Fig. 1



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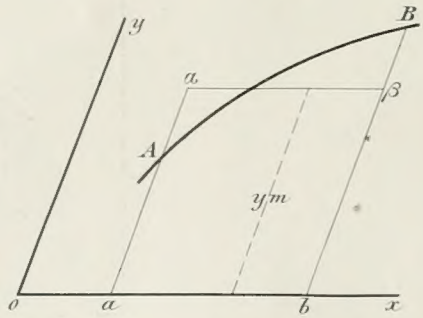

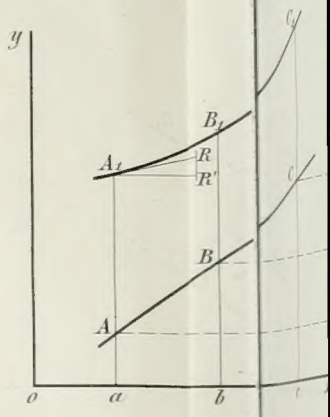

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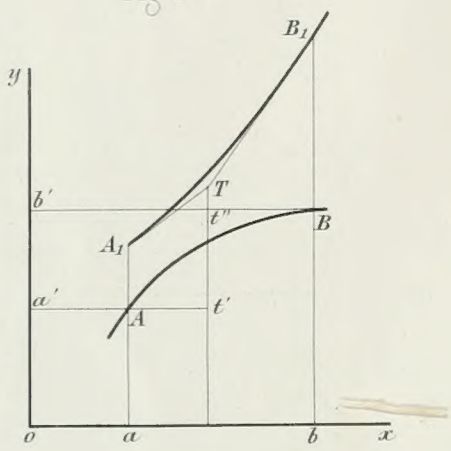

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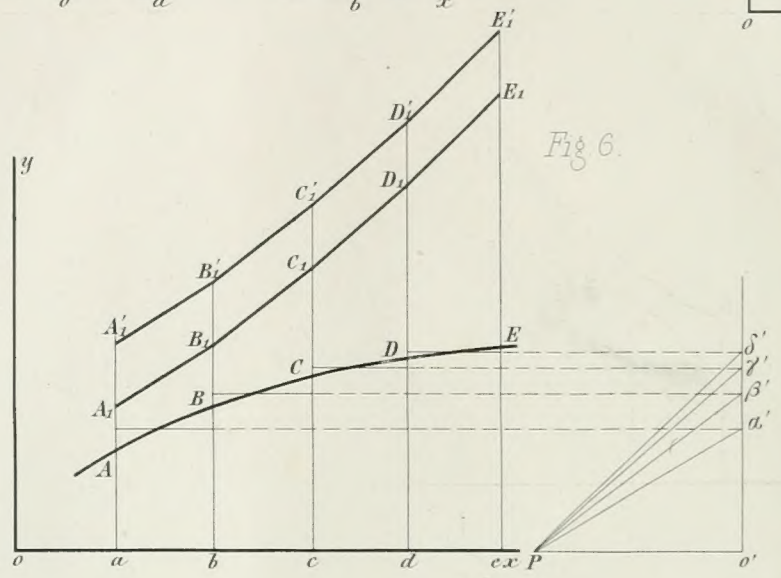

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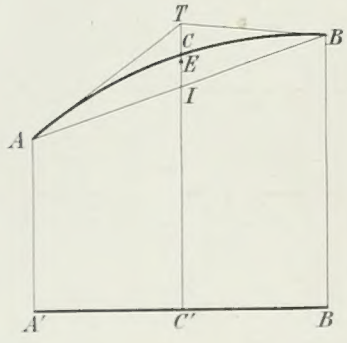

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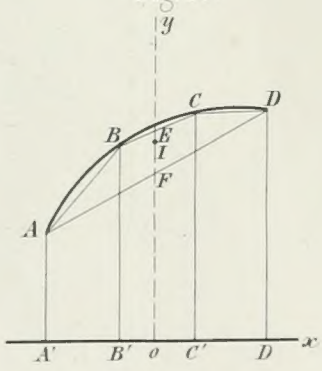

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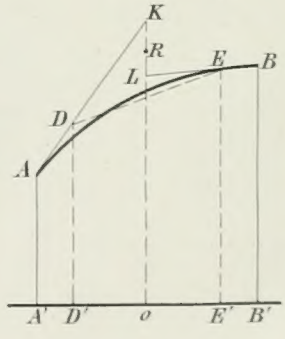

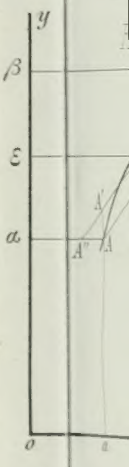

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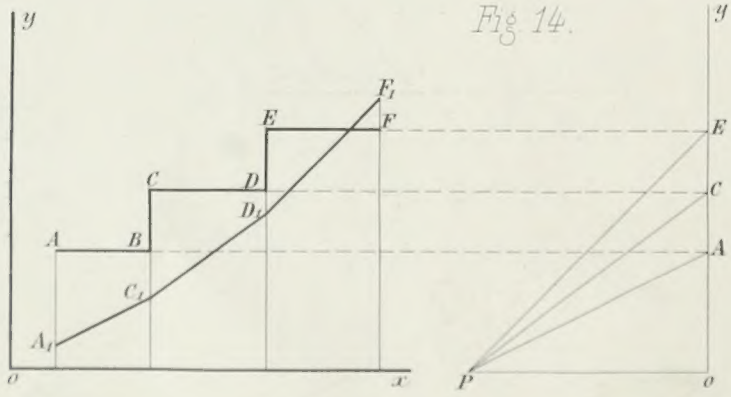

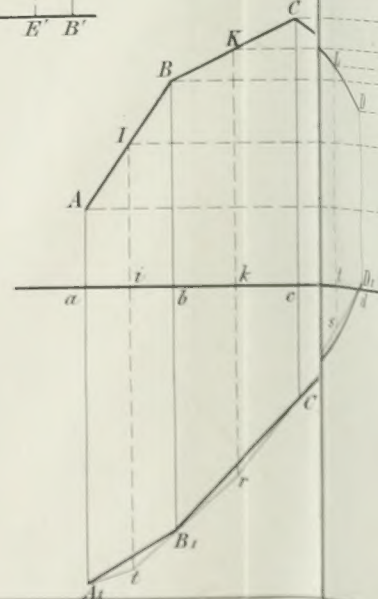

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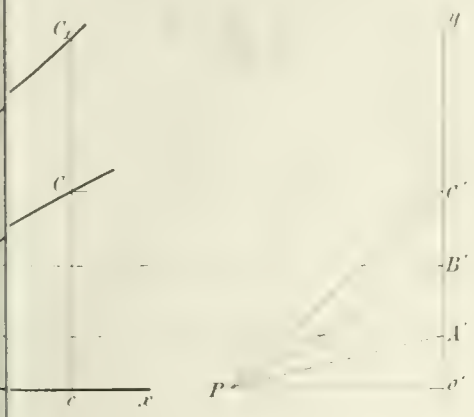

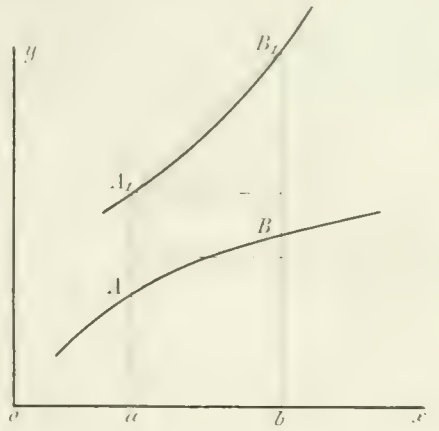

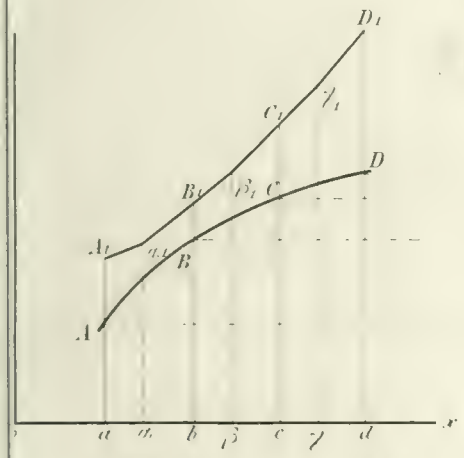

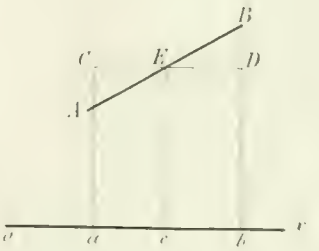

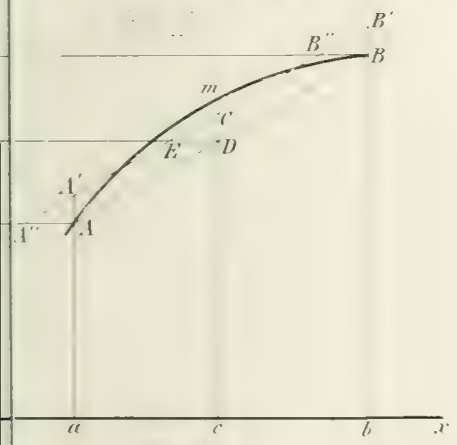

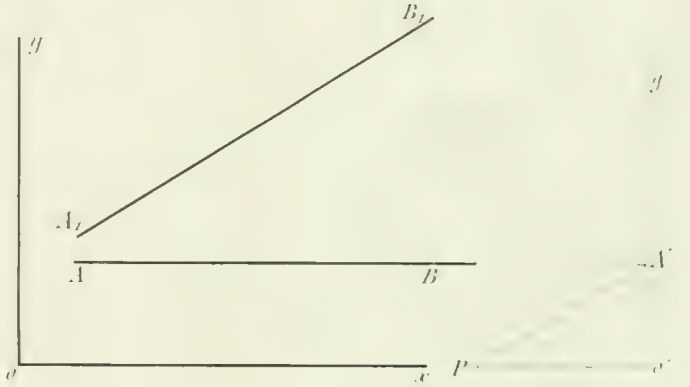

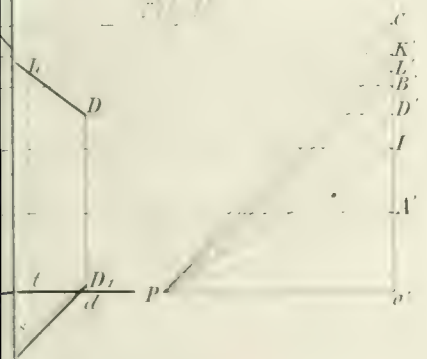

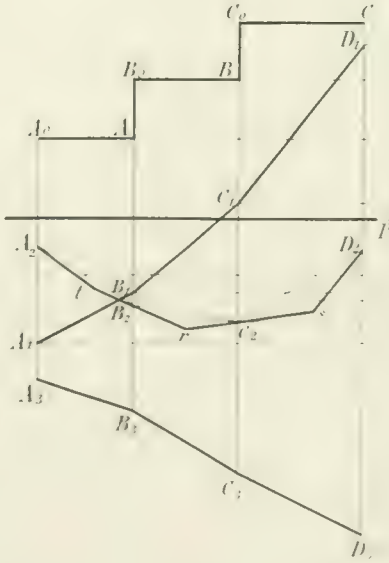

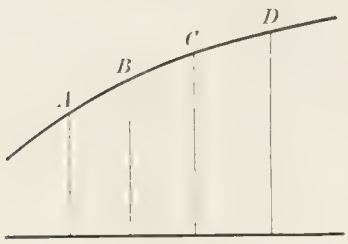

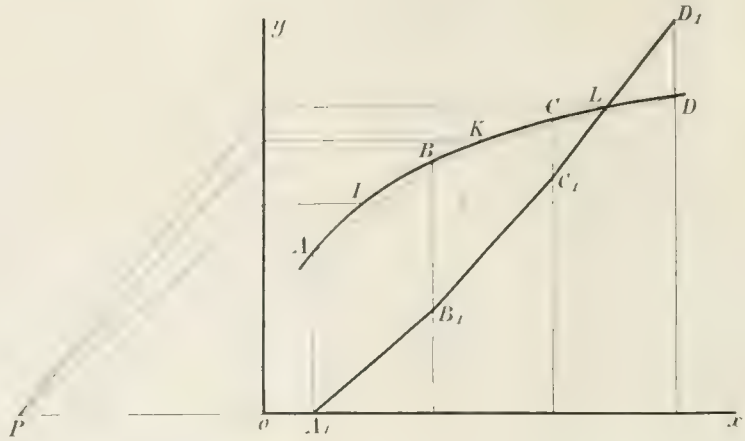

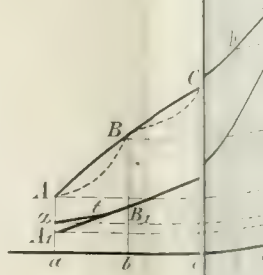

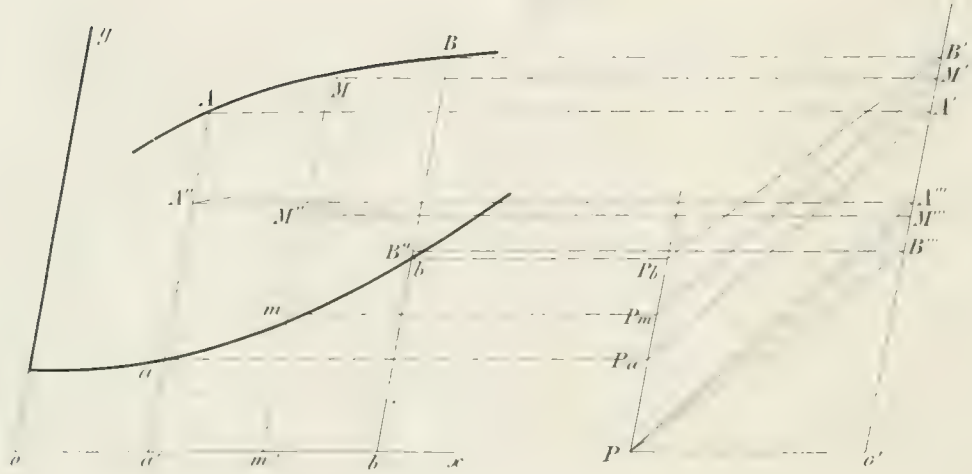

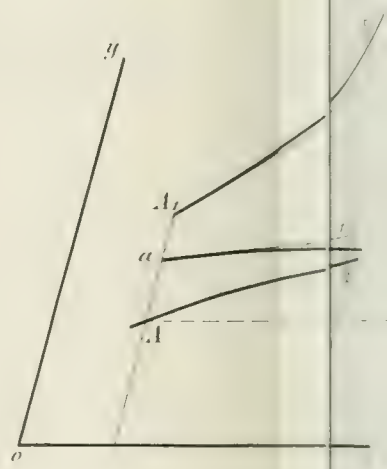

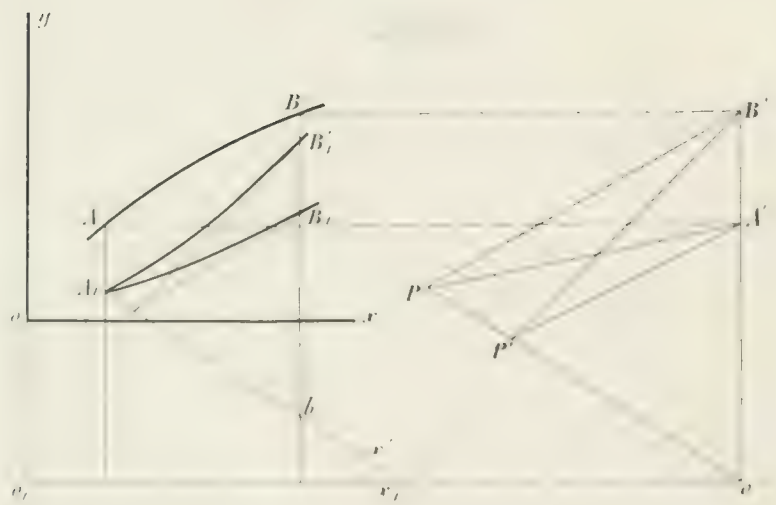

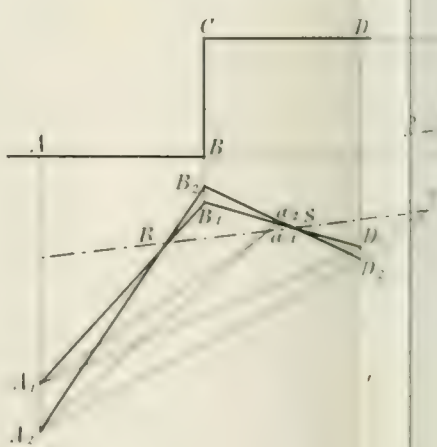

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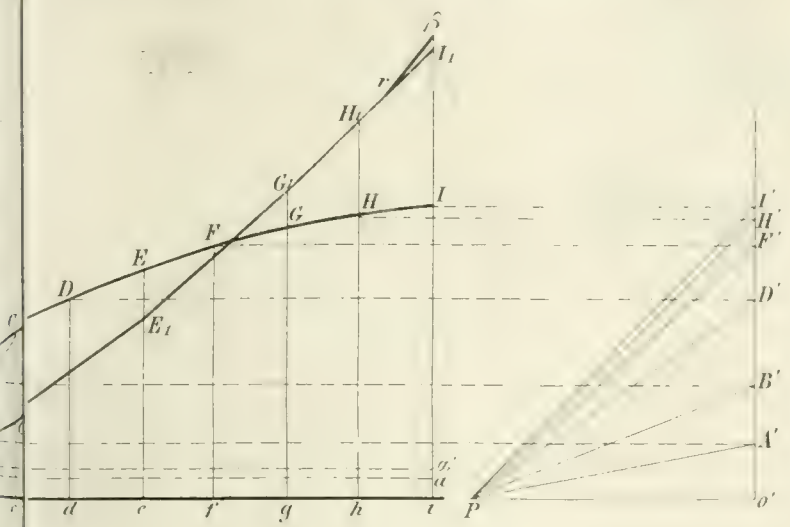
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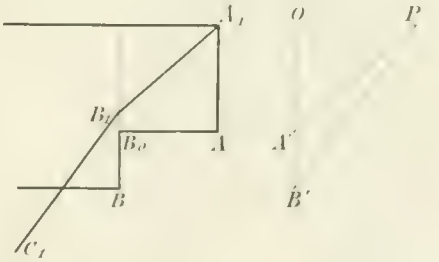
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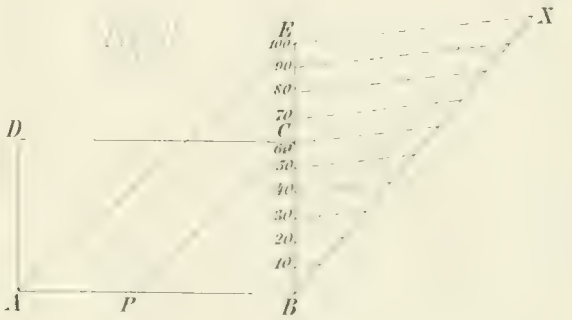
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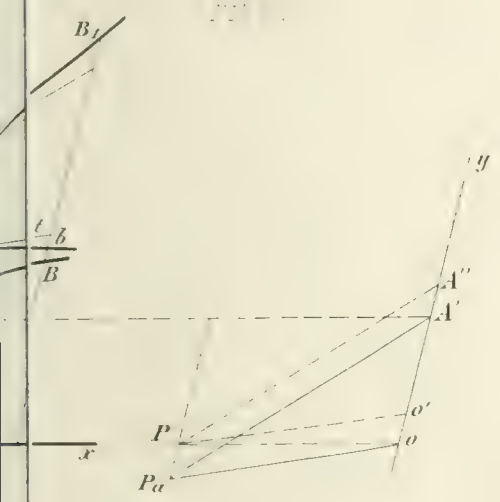
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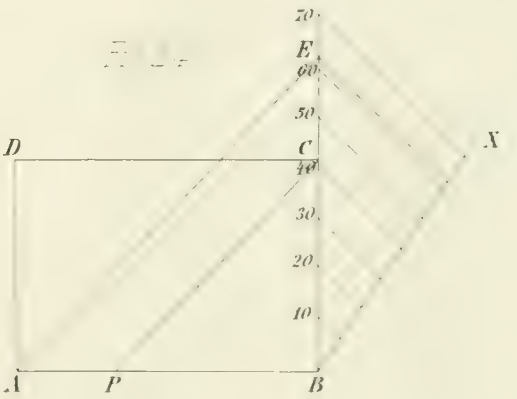
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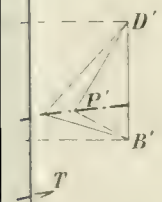
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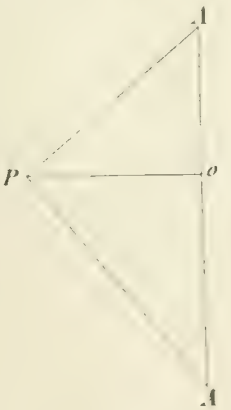
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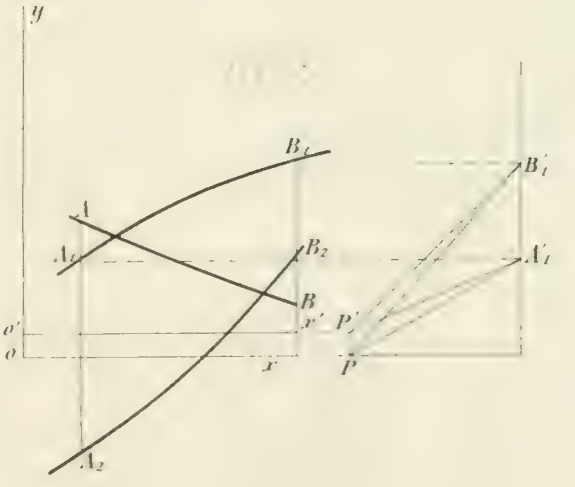
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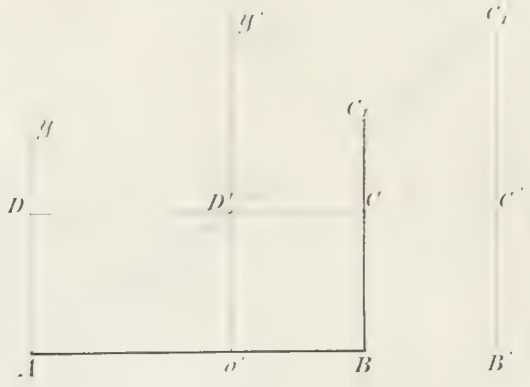

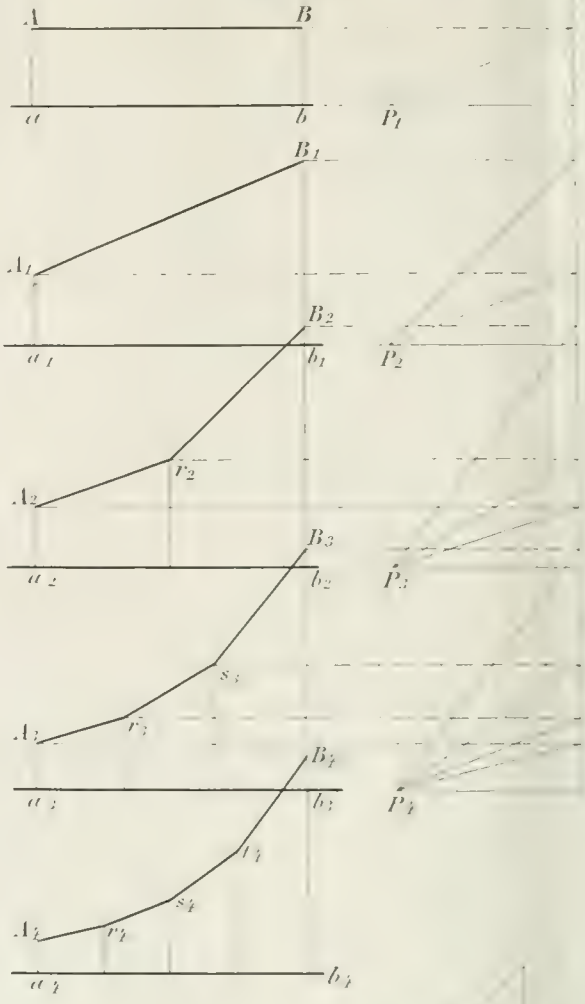

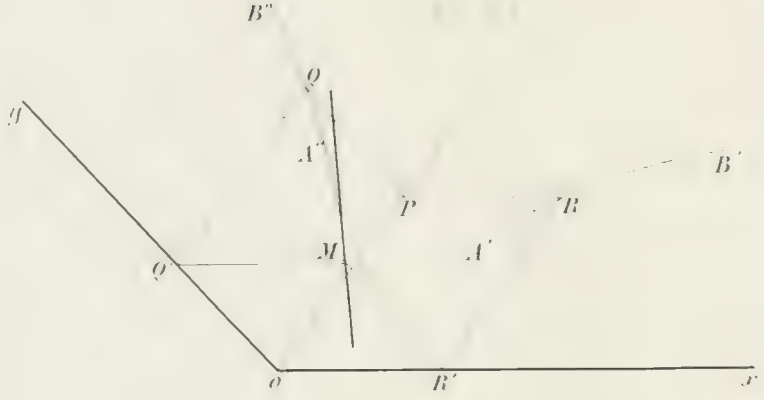

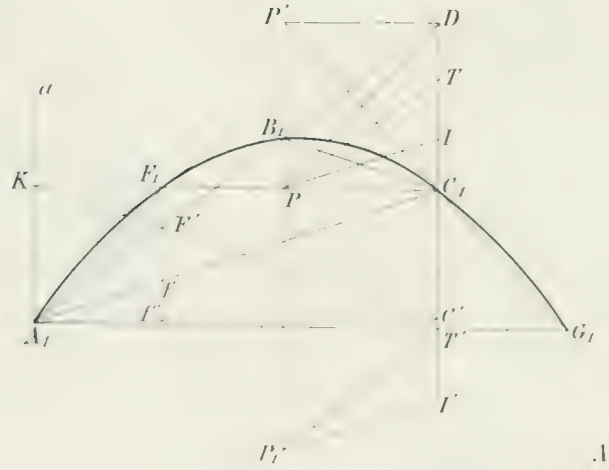

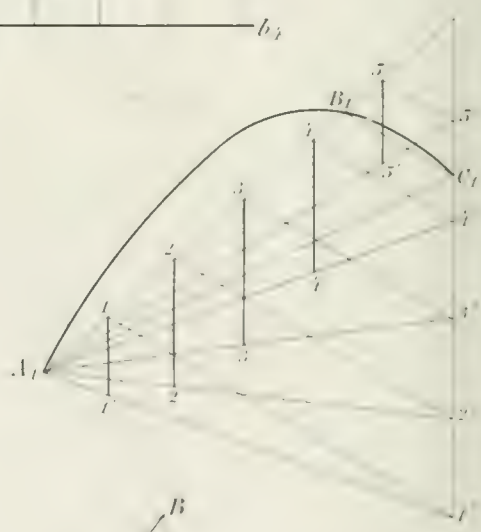

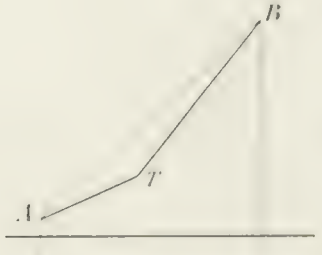

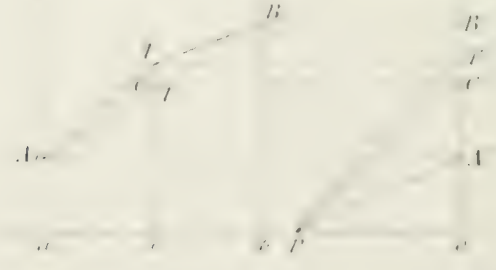

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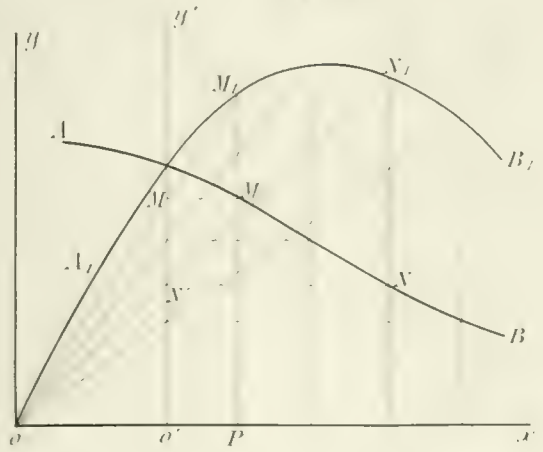

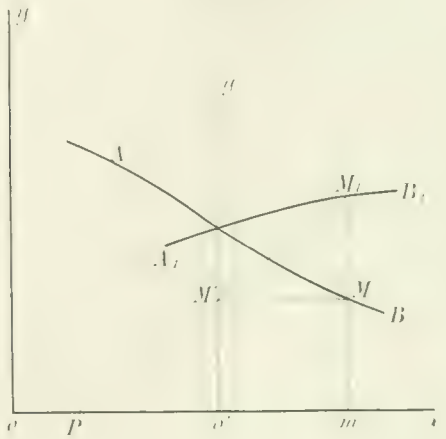

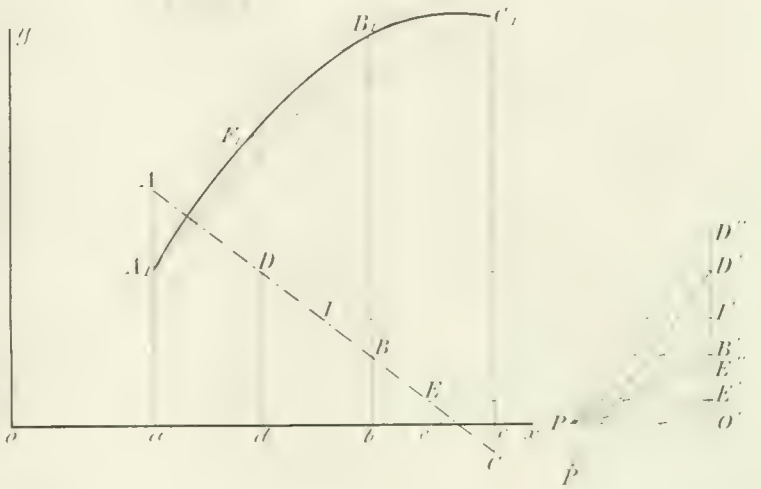

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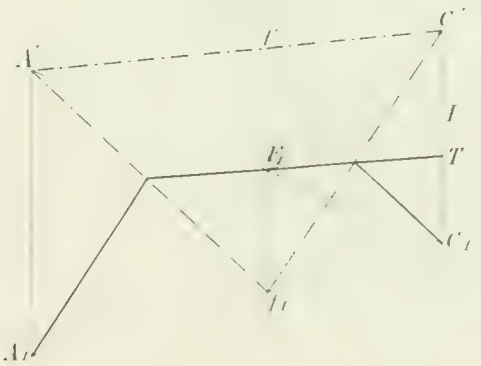

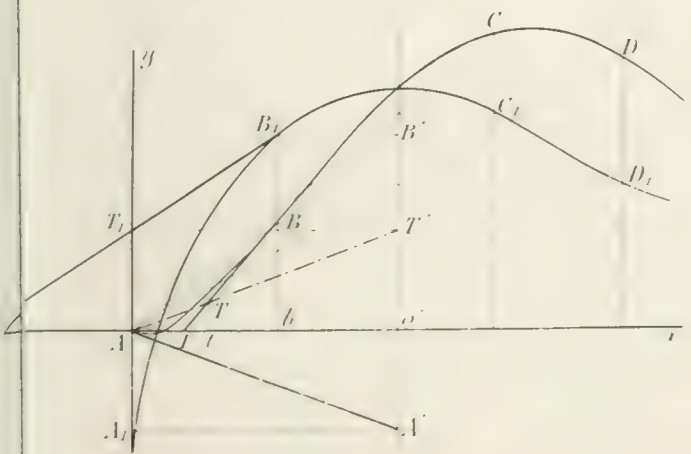

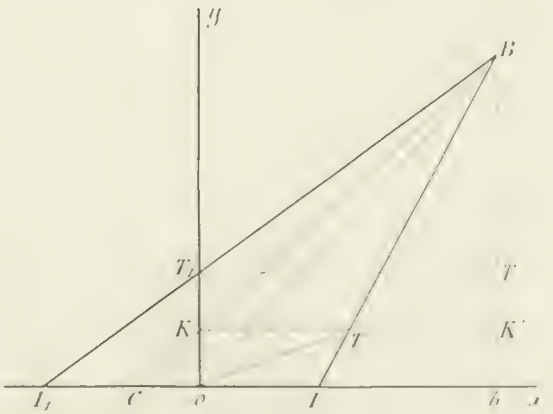

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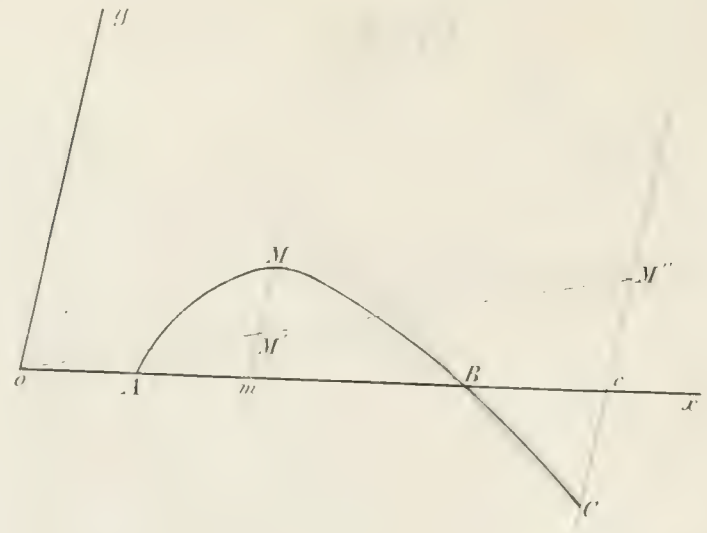
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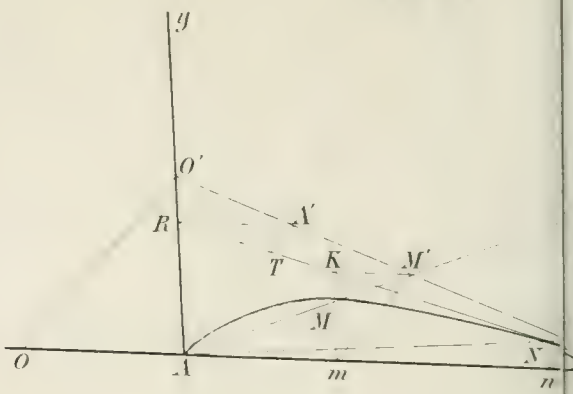
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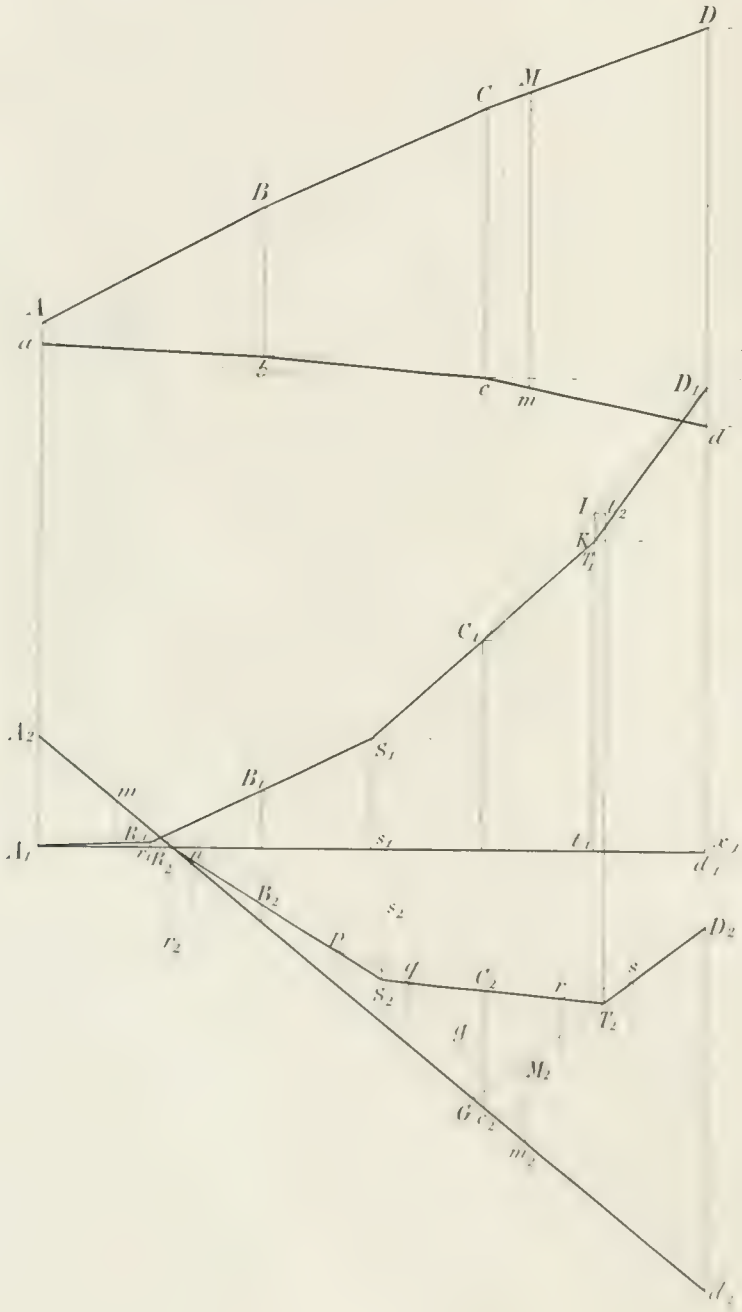
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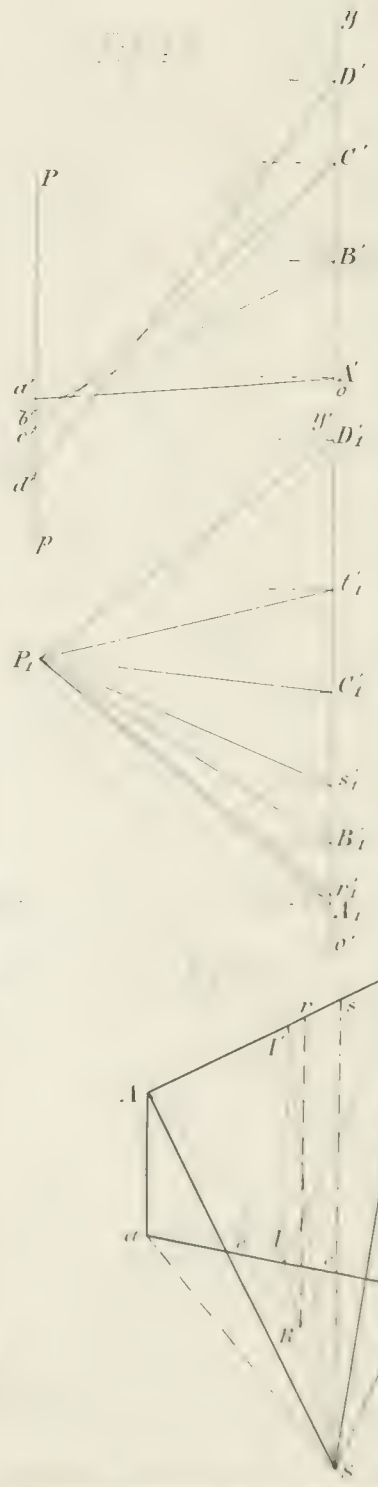
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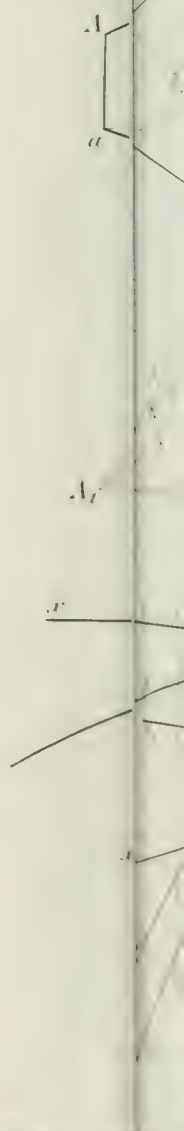
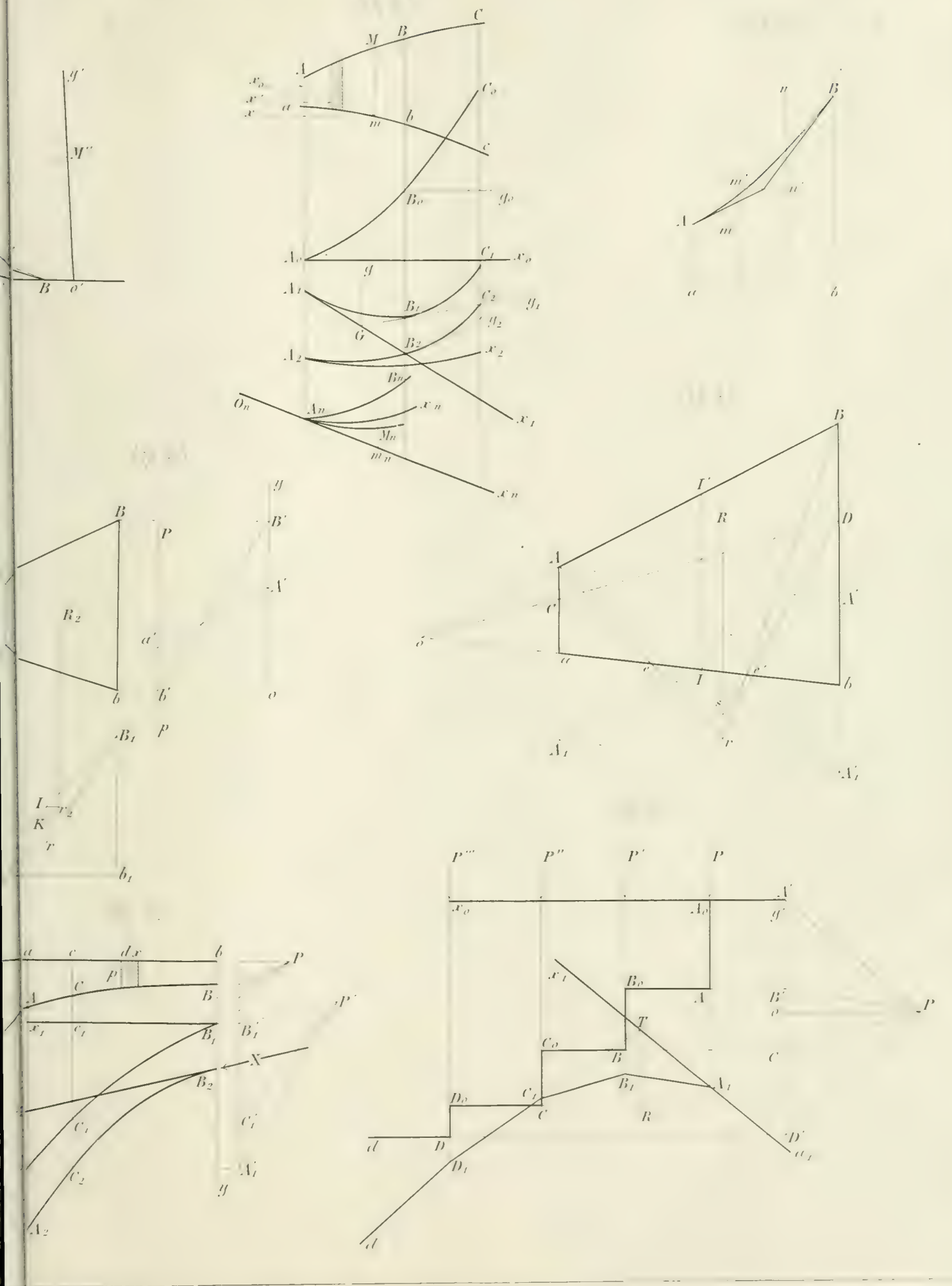

A
a
A₁'
x


C
M
B
A
x_0
x'
x
a
m
b
c
C_0
B_0
g_0
A_0
C_1
x_0
g
A_1
B_1
C_2
g_1
g_2
G
B_2
A_2
x_2
B_n
O_n
A_n
x_n
M_n
m_n
x_1
x_n
M''
g'
B
o'
n
B
m'
n'
A
m
a
b
B
P
B_2
a'
b
b'
o
g
B'
A'
o'
B_1
P
B
I'
R
D
A
A'
C
a
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I
e'
b
s
r
A_1
A_1
I
r_2
K
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b_1
a
c
dx
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P
P'
A
C
P'
B
x_1
c_1
B_1
B_1'
X
B_2
C_1
C_1'
C_2
A_1
g
A_2
P'''
P''
P'
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A'
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A_0
g'
x_1
B_0
A
B'
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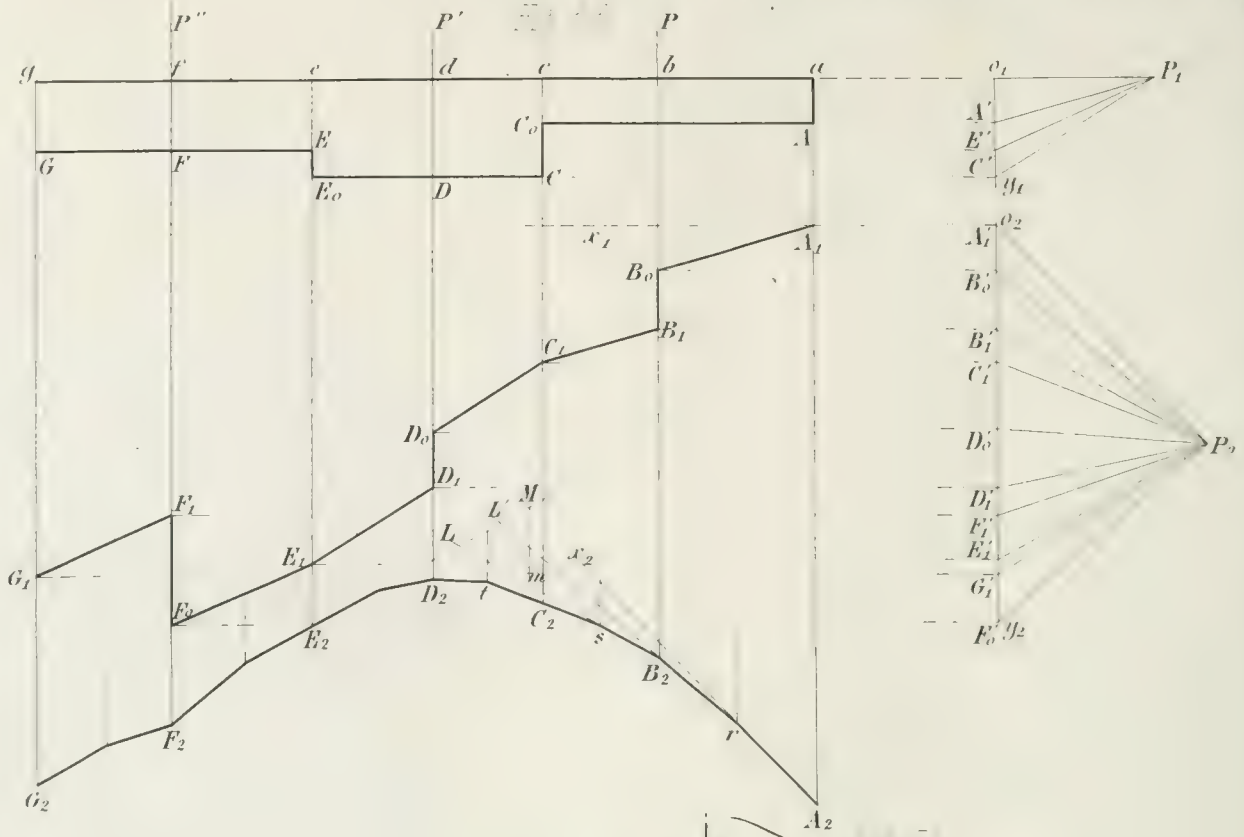
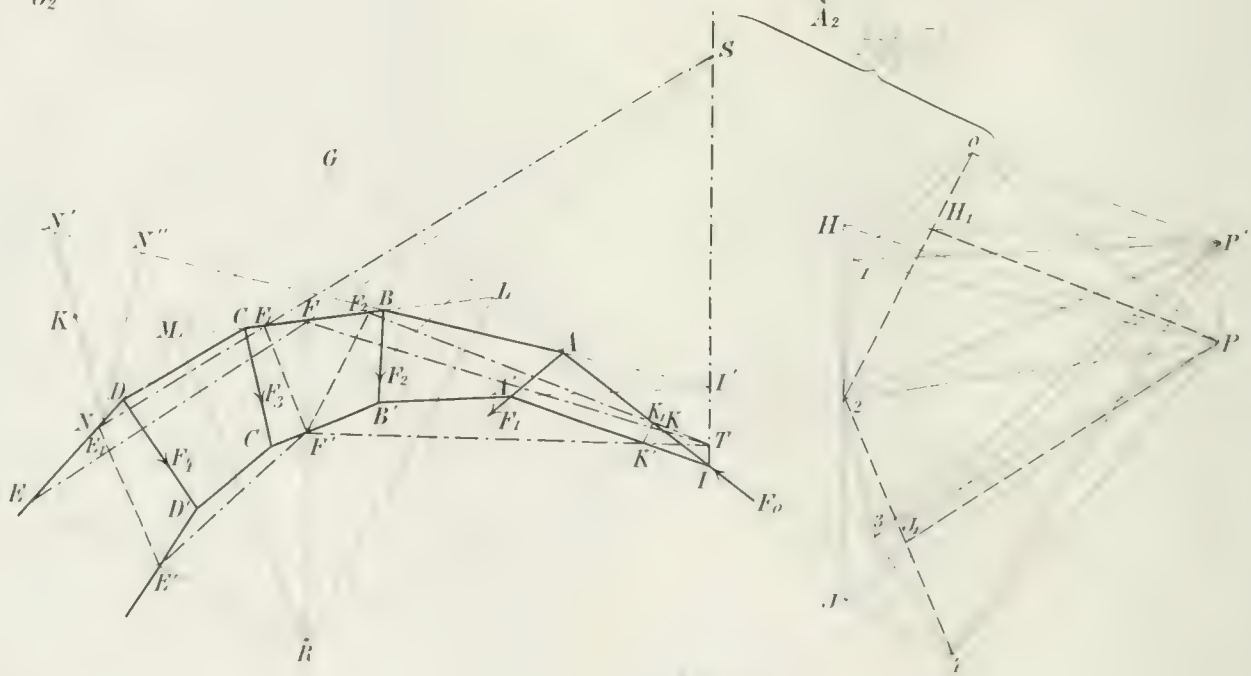
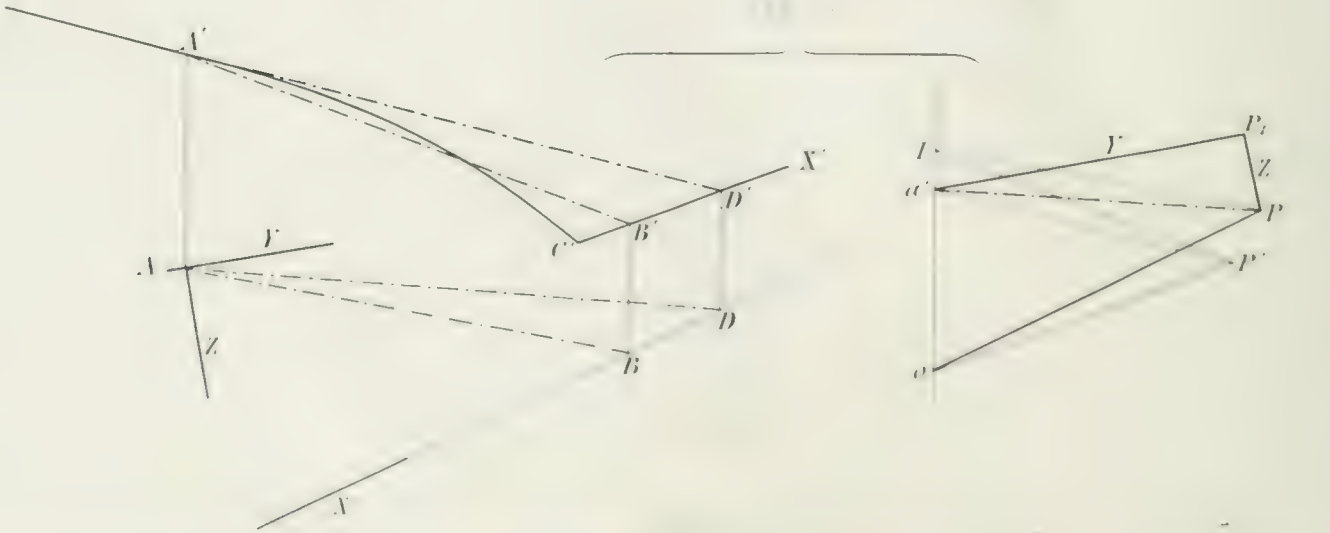
a_1
d







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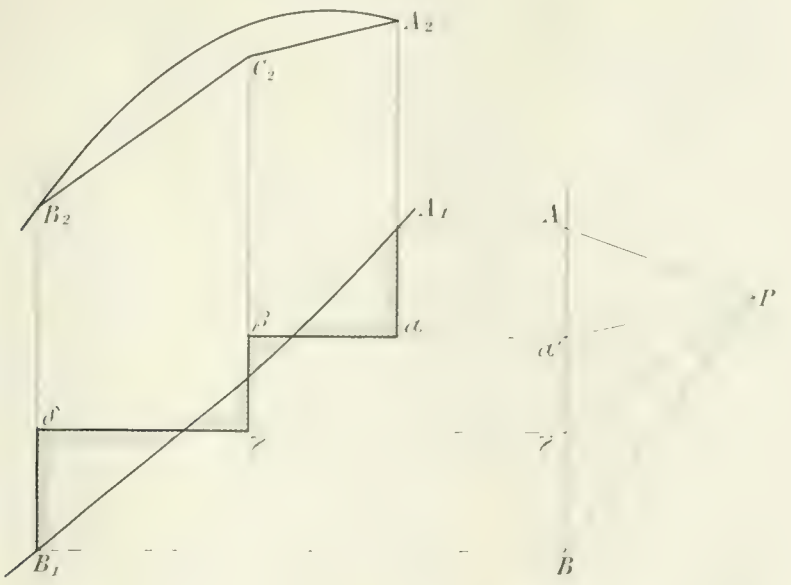
A2
C2
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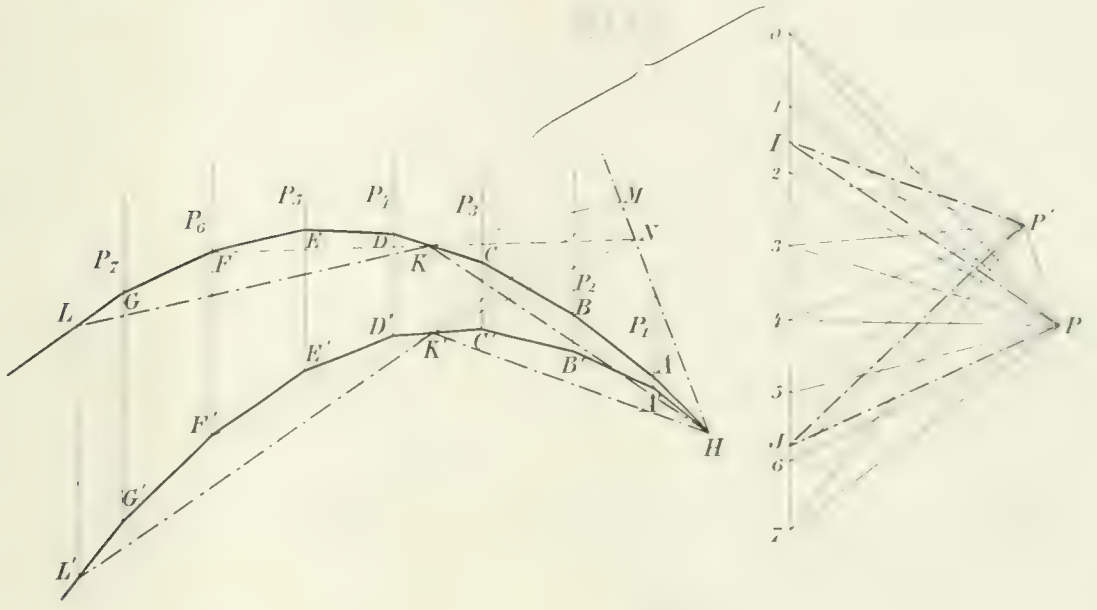
A1
a
c
B1
A
P
a'
c'
B


P6
P5
P4
P3
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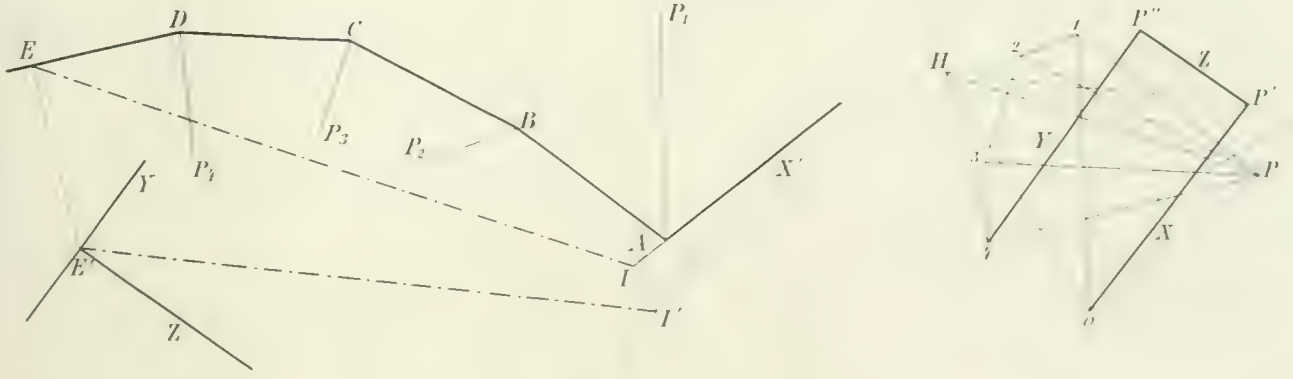
E
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I
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X'
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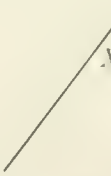
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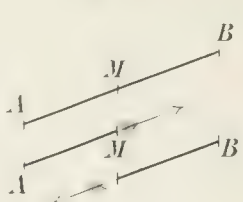
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A
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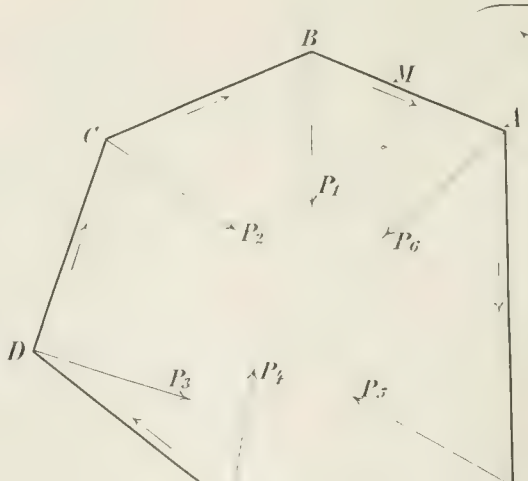
B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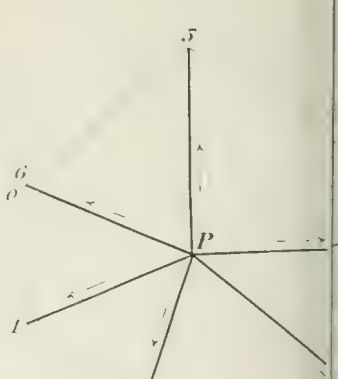
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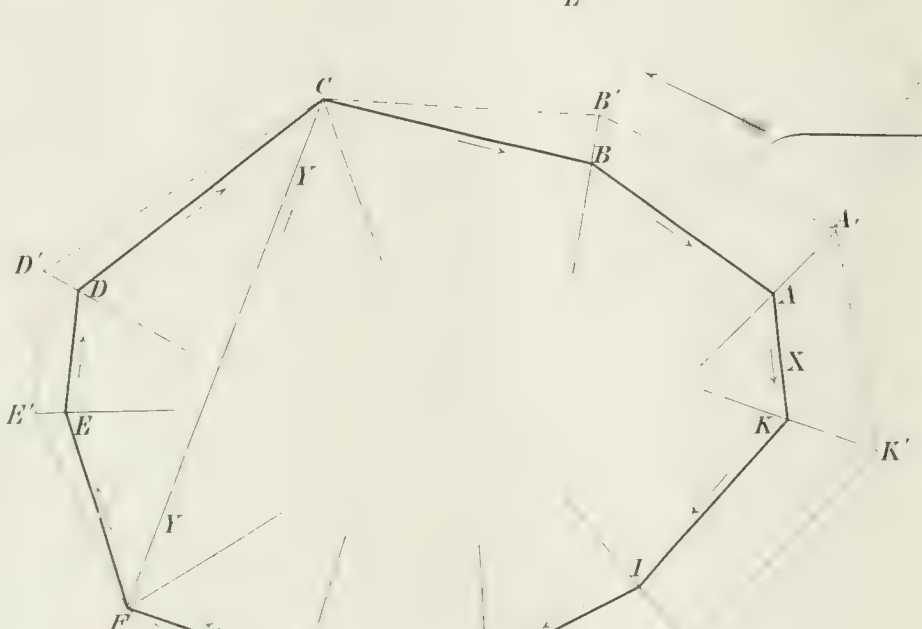
C
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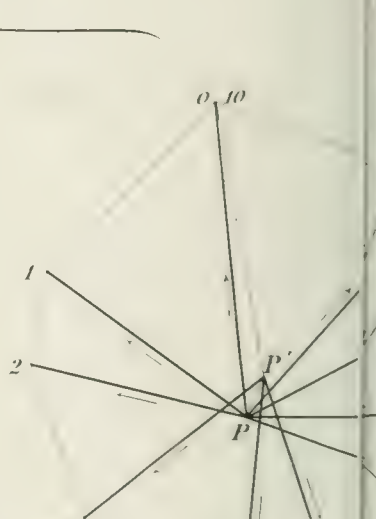
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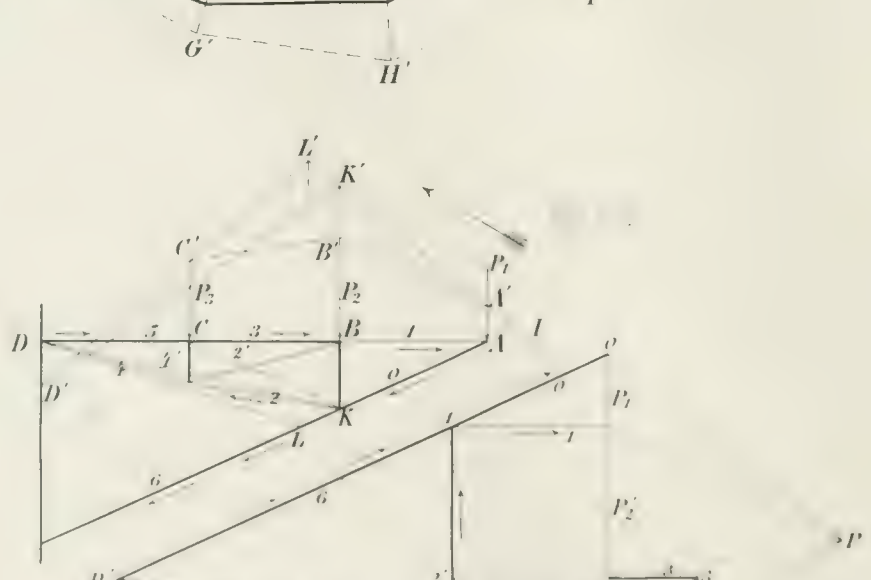
L'
K'
C'
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A'
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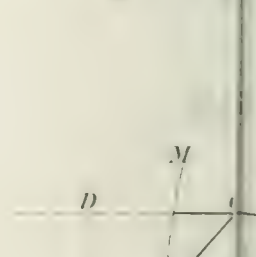
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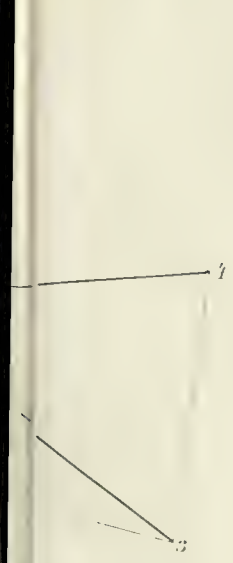
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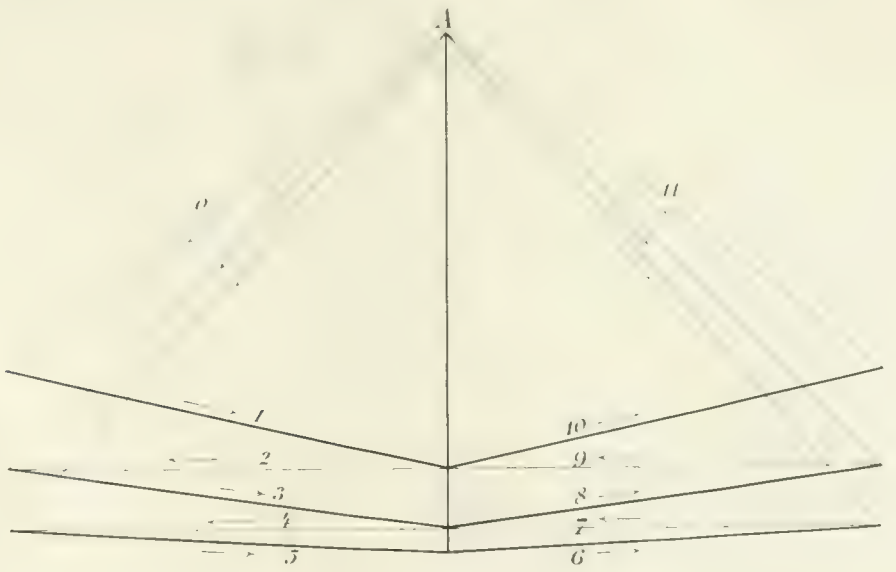
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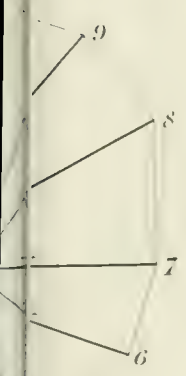
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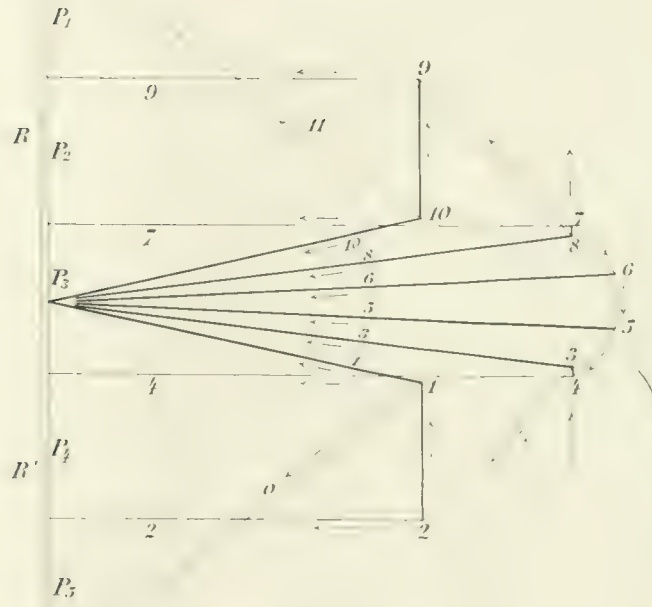
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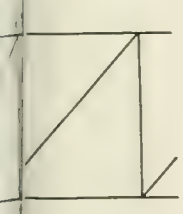

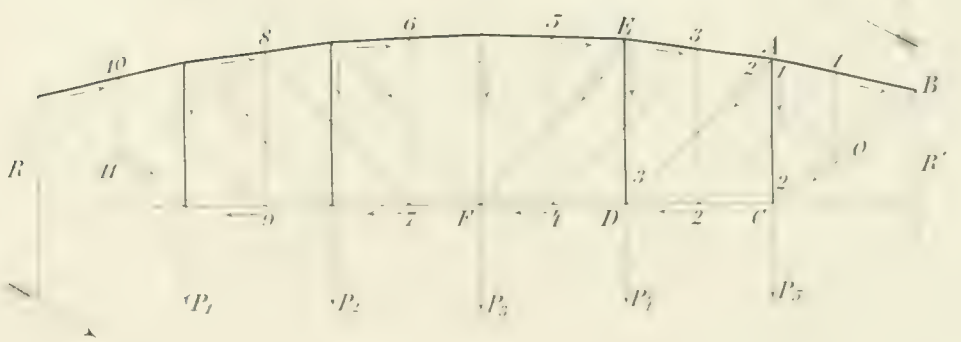
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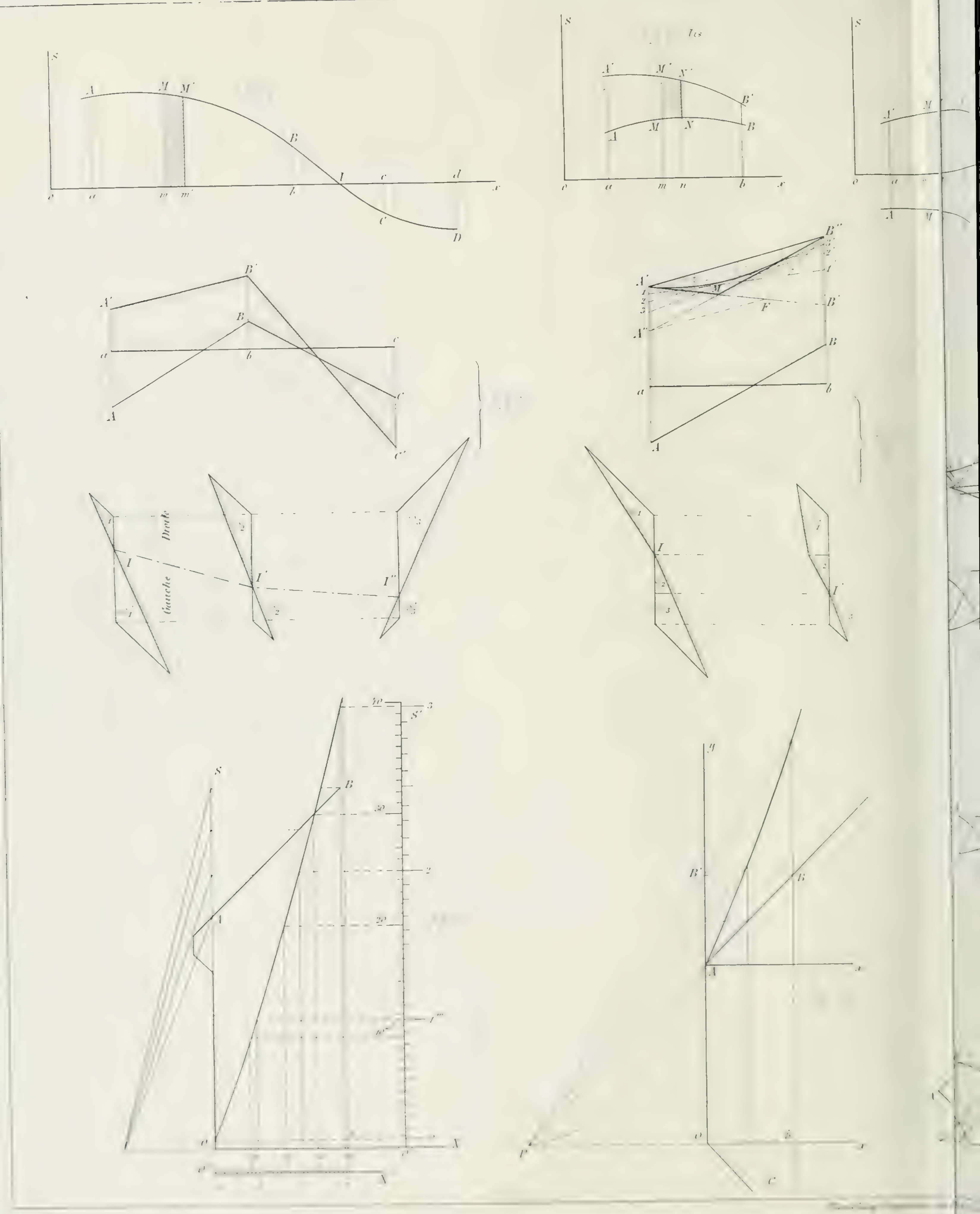
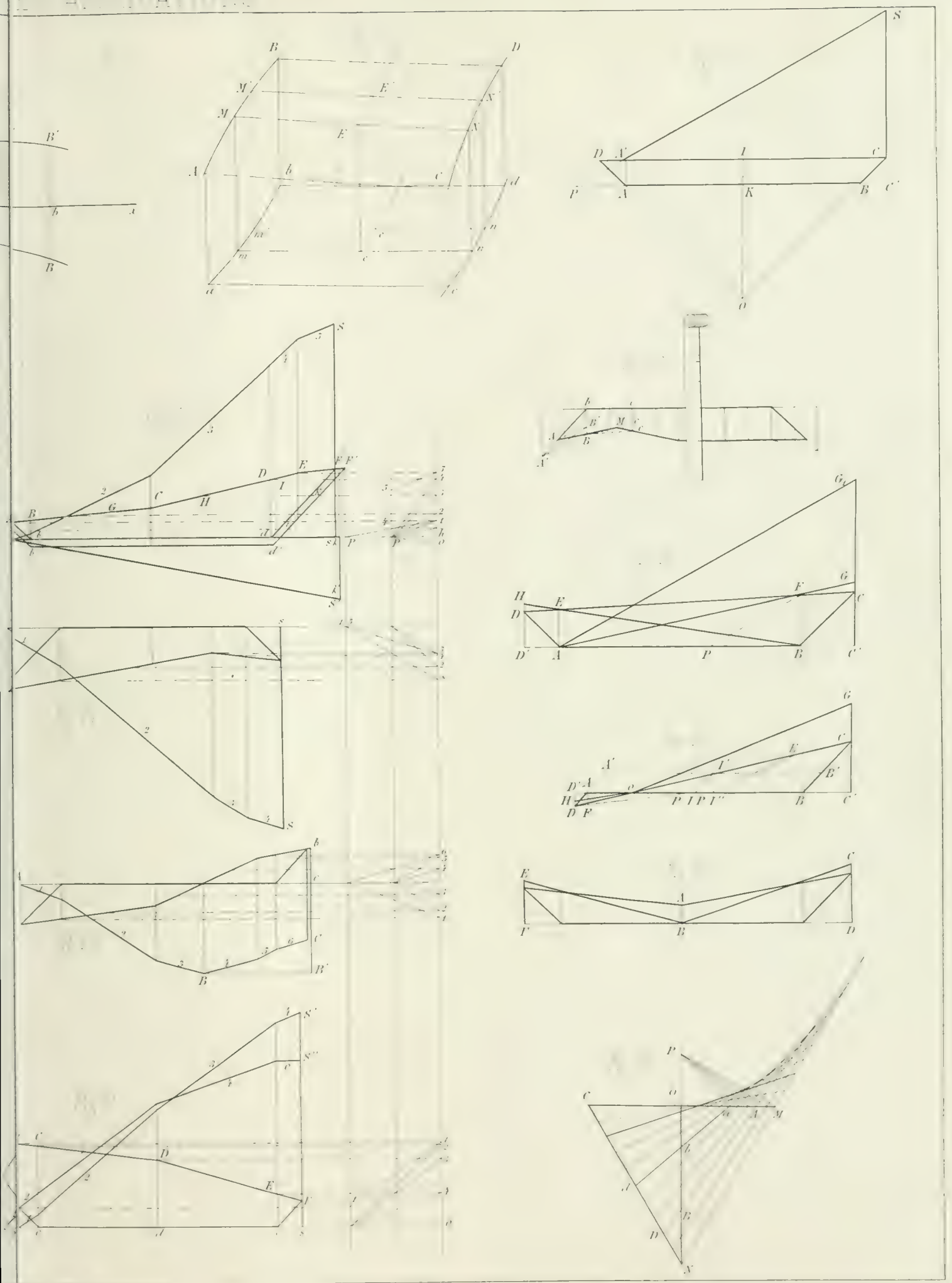
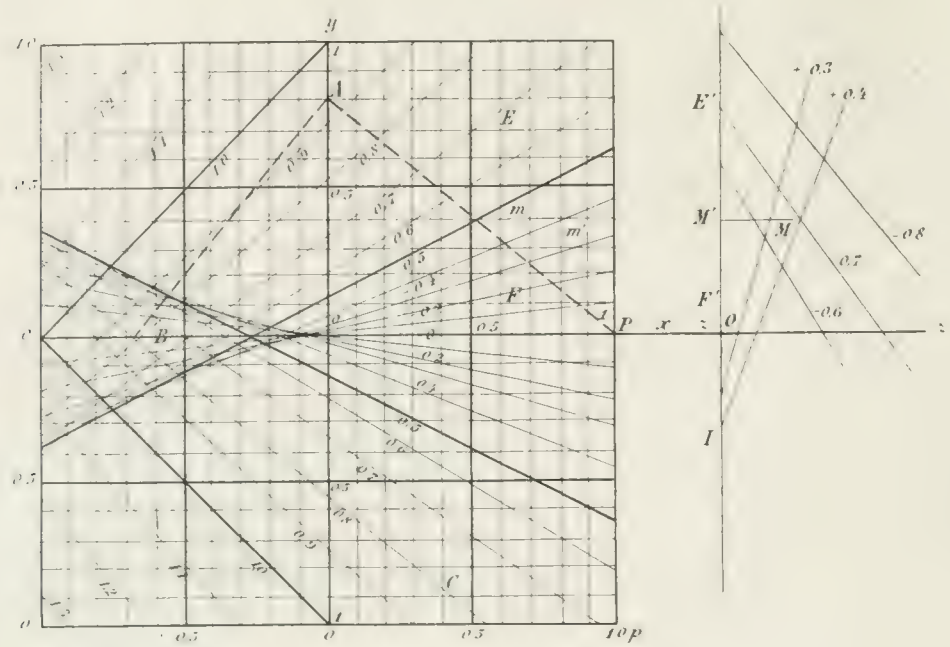
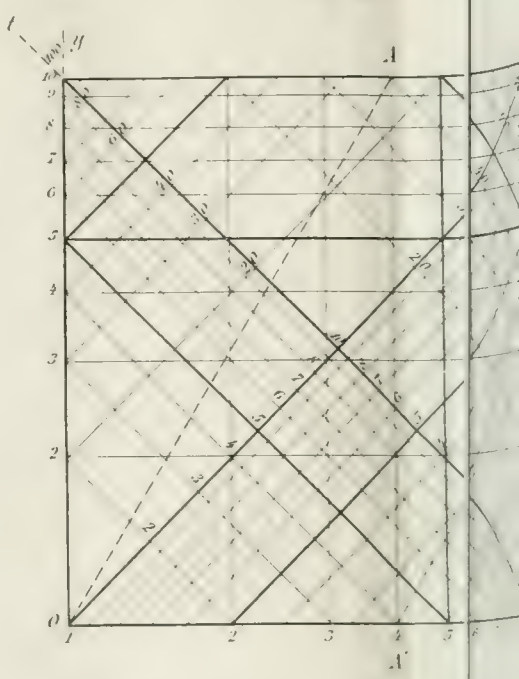
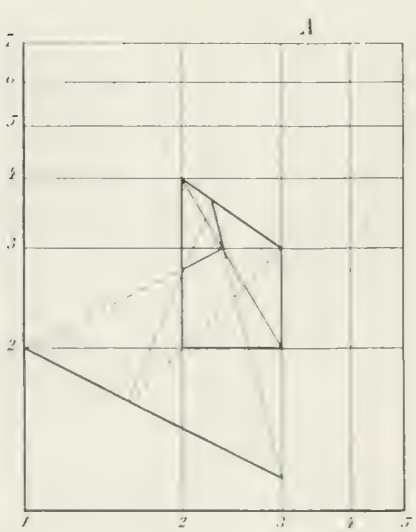
INTEGRATION GRAPHIQUE ET

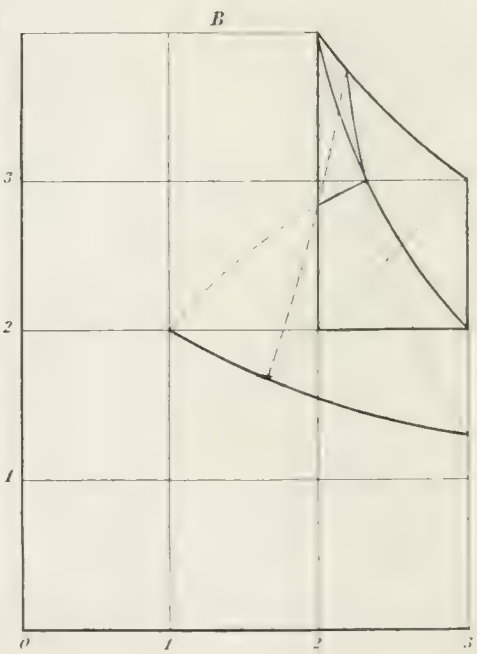


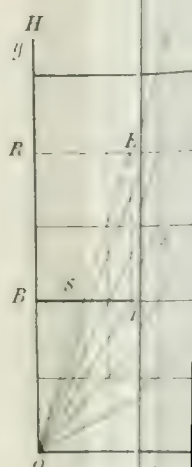


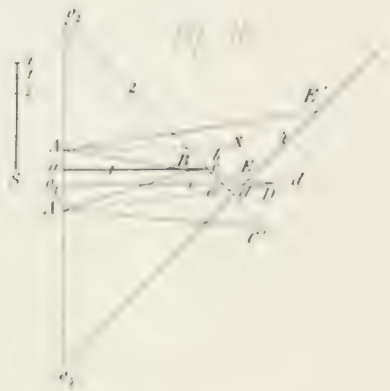


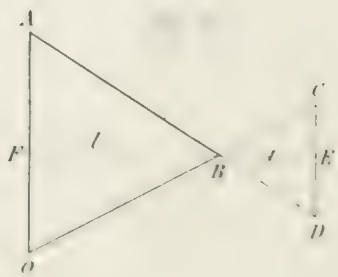


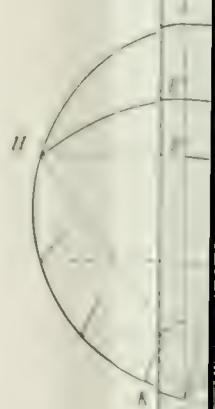












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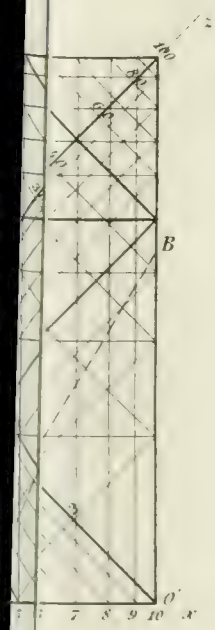
B
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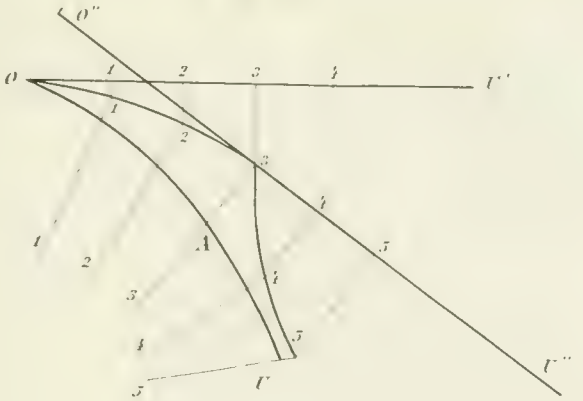
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O
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U'
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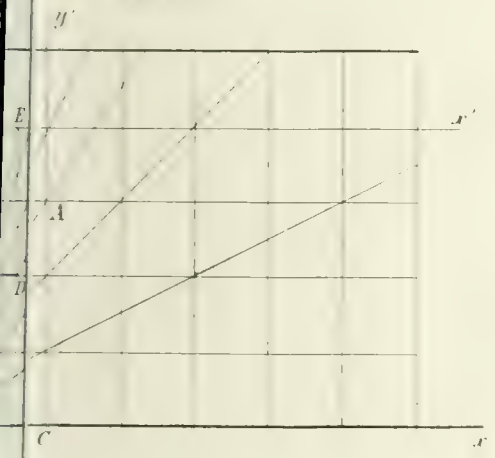
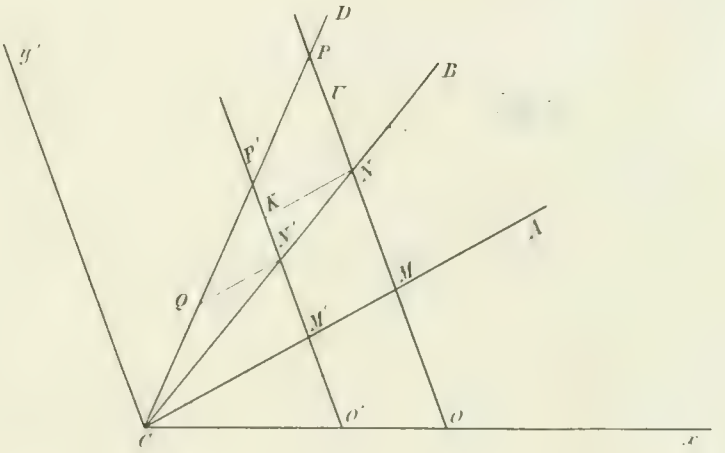

y'
E
x'
A
C
x


D
y'
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C
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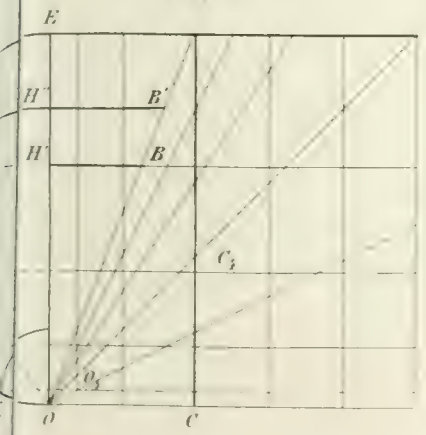
E
H'
B'
H
B
C₁
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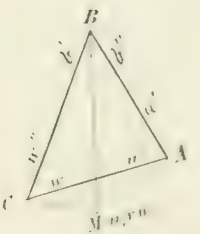
O
C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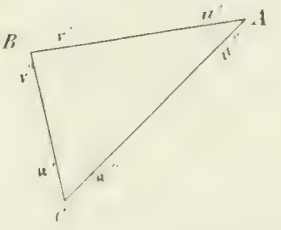
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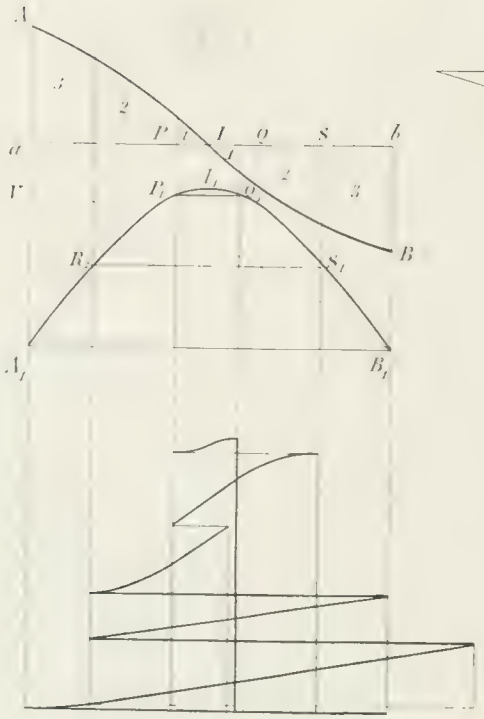

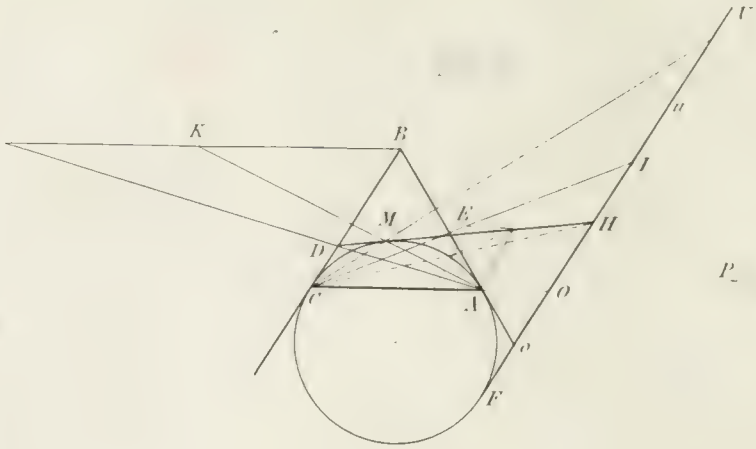

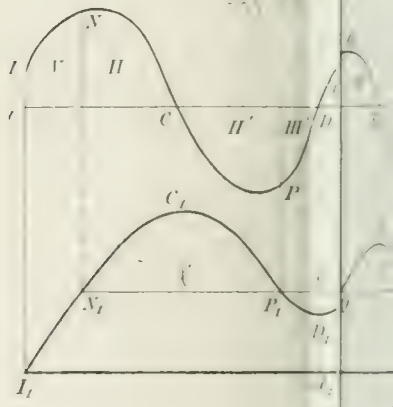

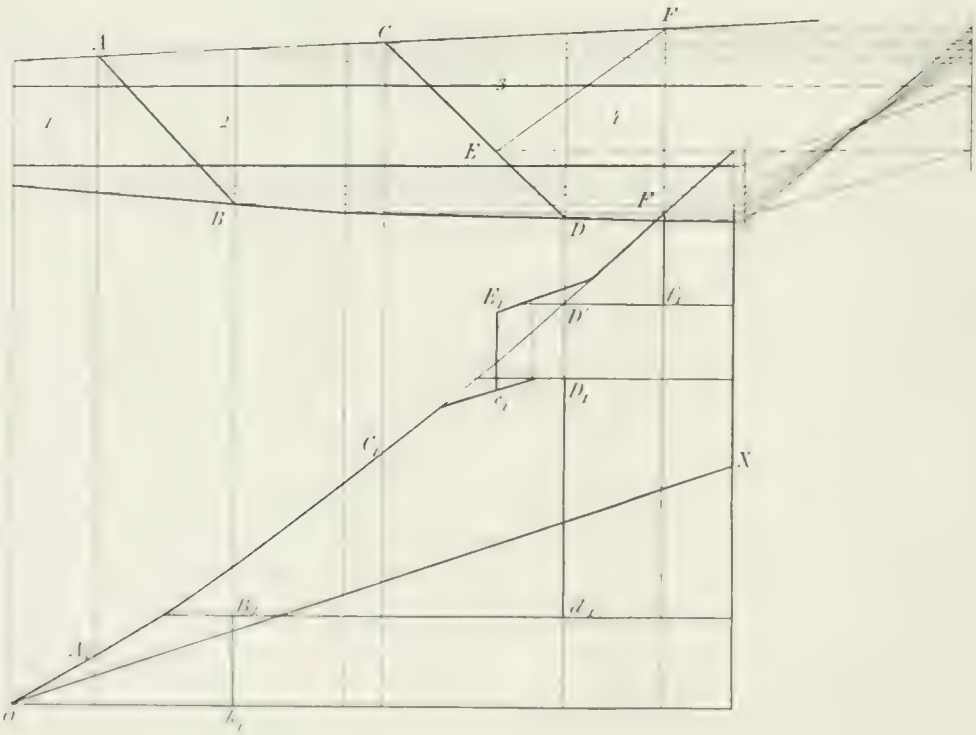

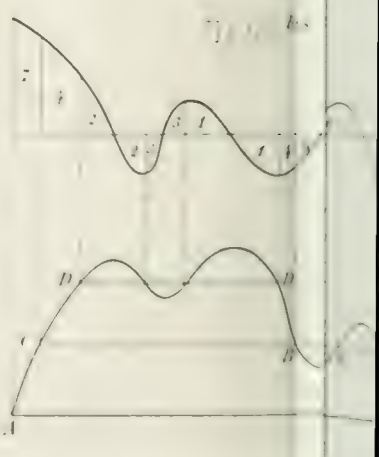

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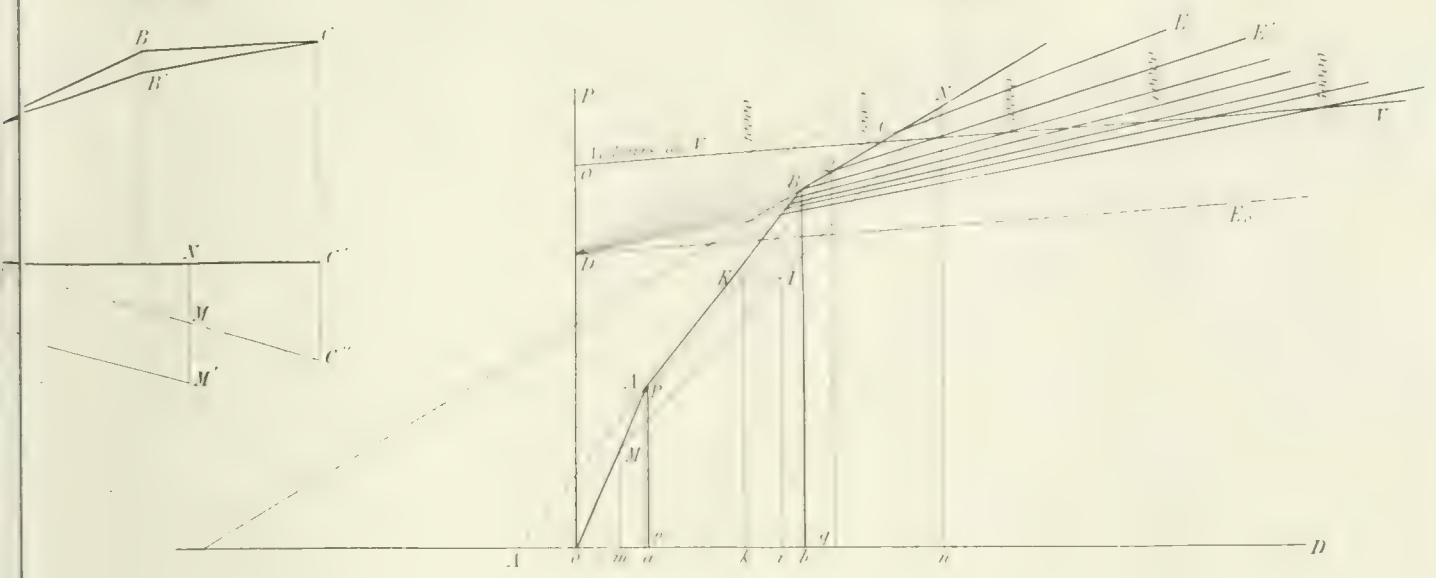
B
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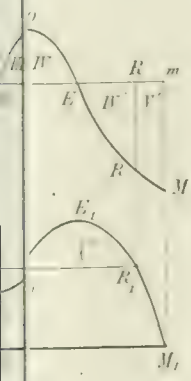
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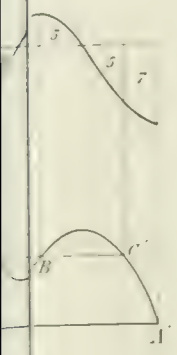
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C
A

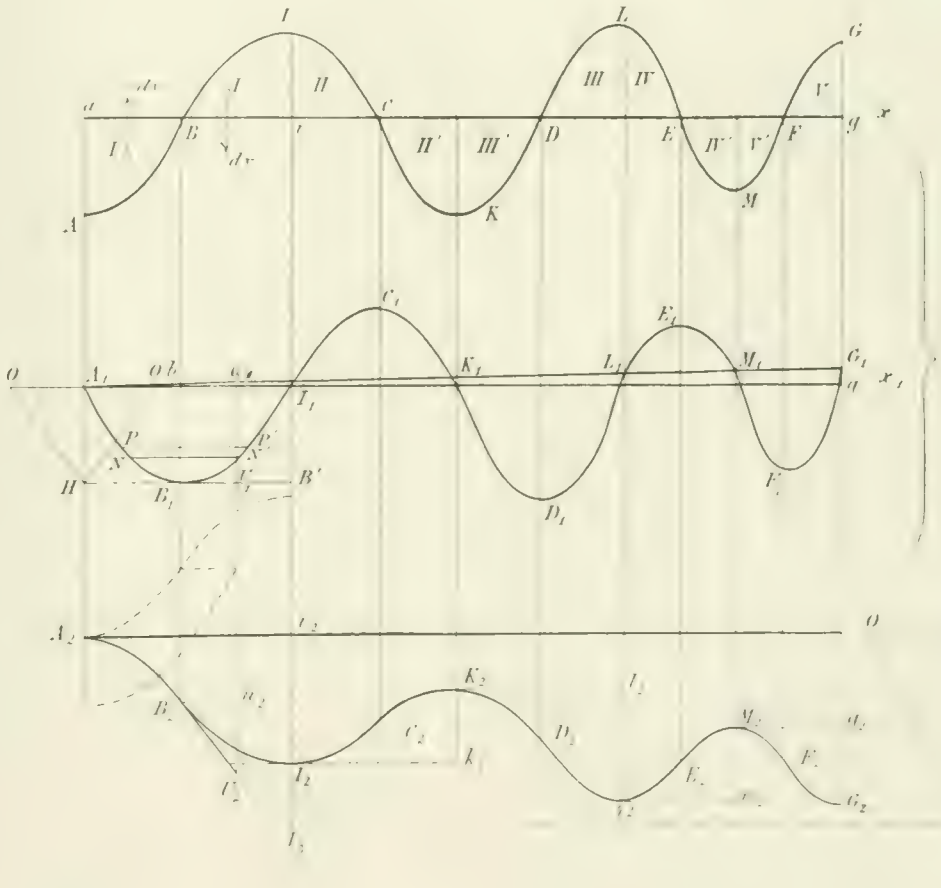
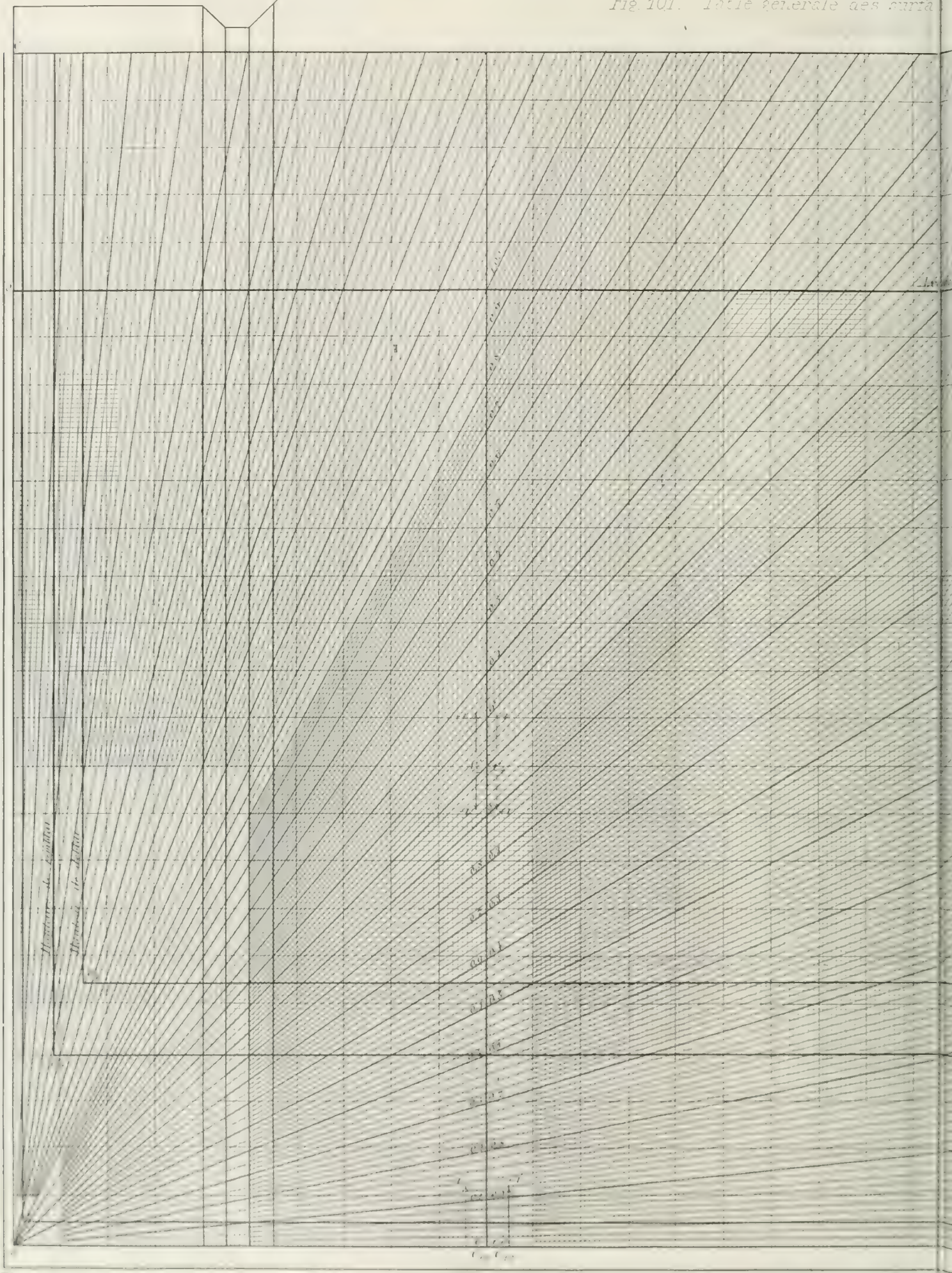
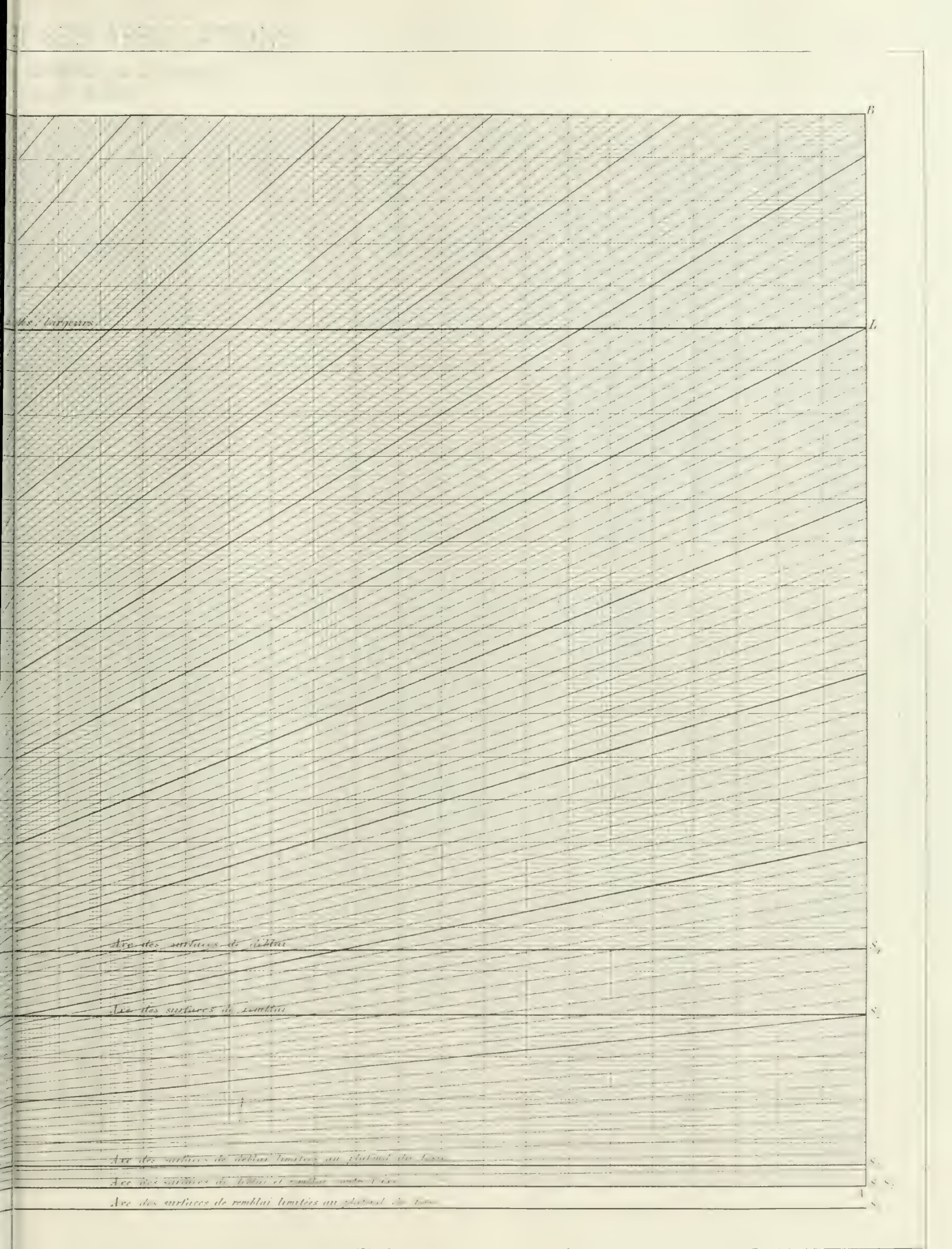
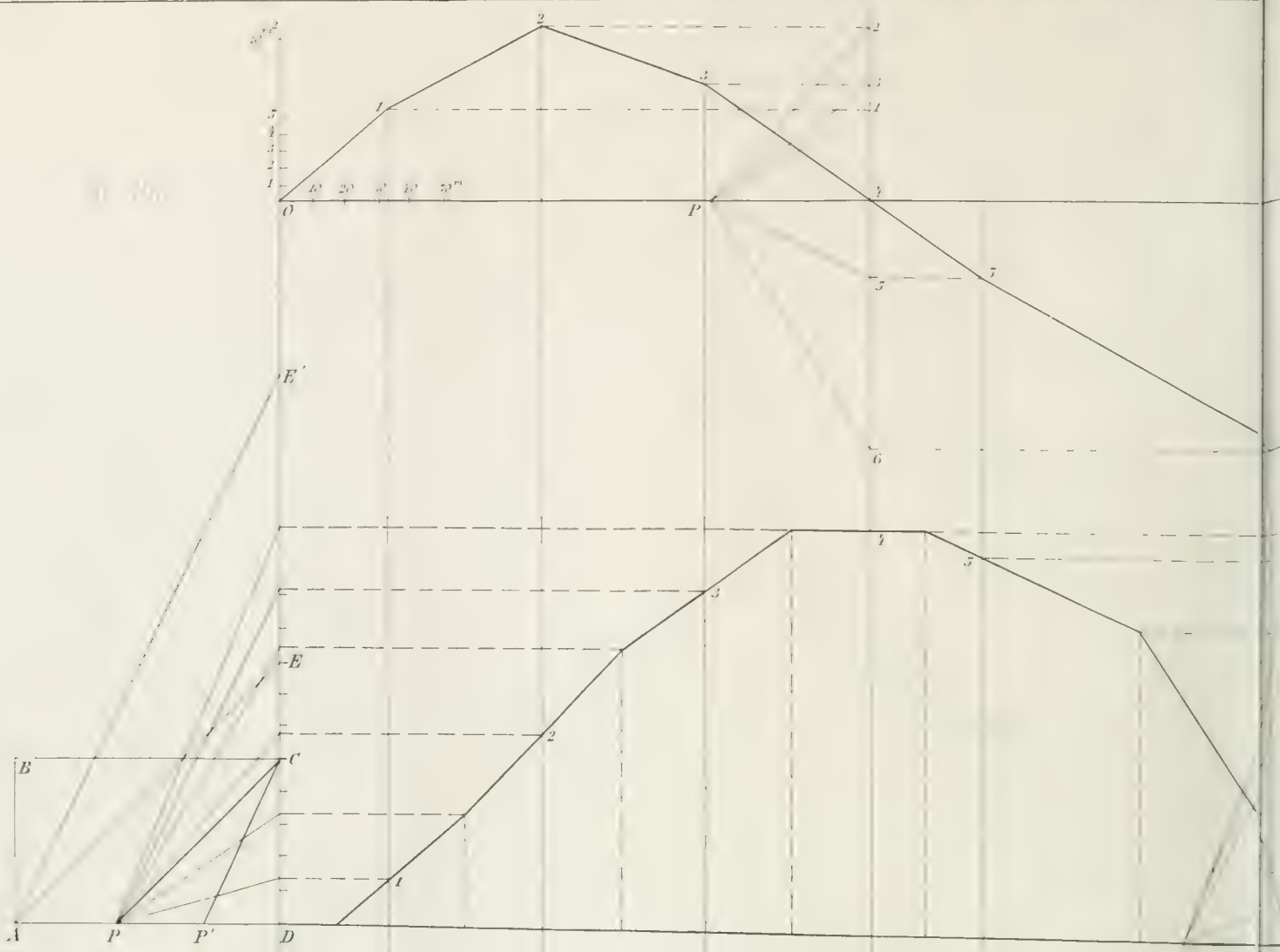
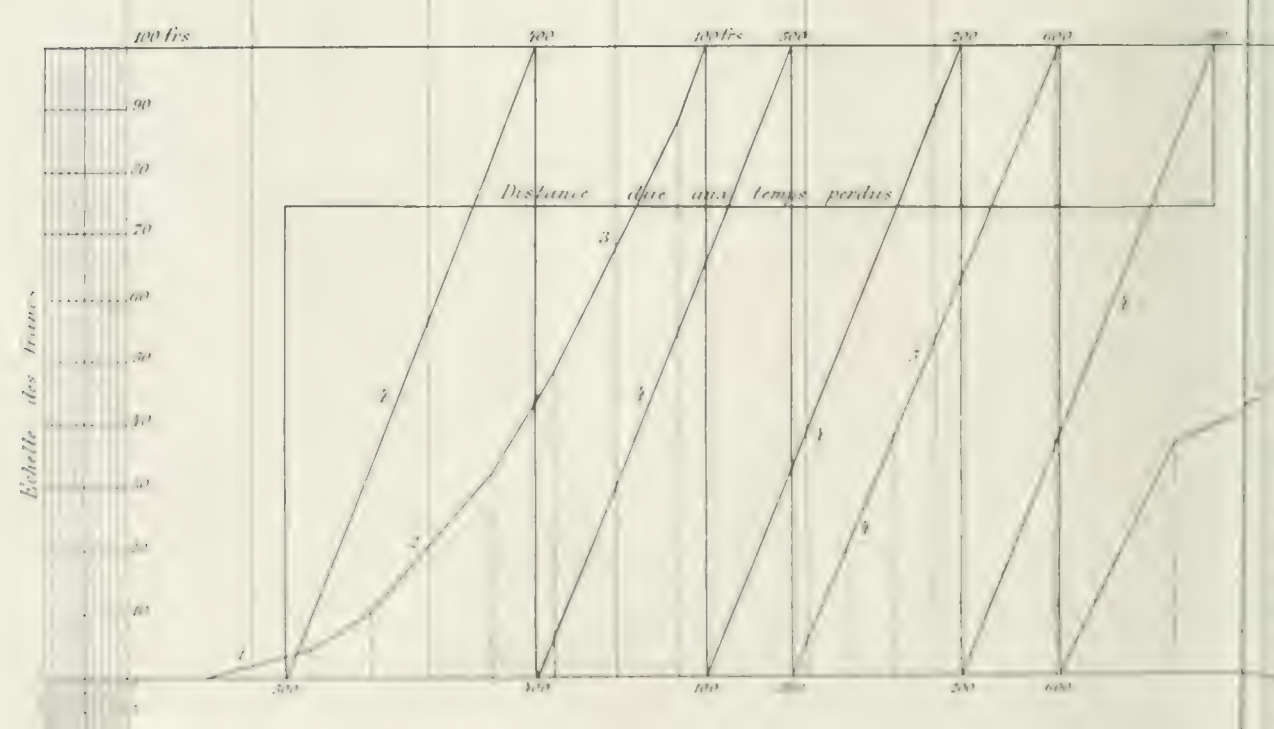

I
L
G
a
A
I
II
C
III
IV
V
B
dx
I'
II'
III'
D
E
IV'
V'
F
q
x
K
M
C₁
E₁
O
A₁
O b
K₁
L₁
M₁
G₁
q
x₁
I₁
P
P'
N
N'
B'
B₁
D₁
F₁
A₂
O
K₂
B₂
C₂
D₂
I₂
E₂
F₂
G₂
I₂

Fig. 101. Table générale des curb

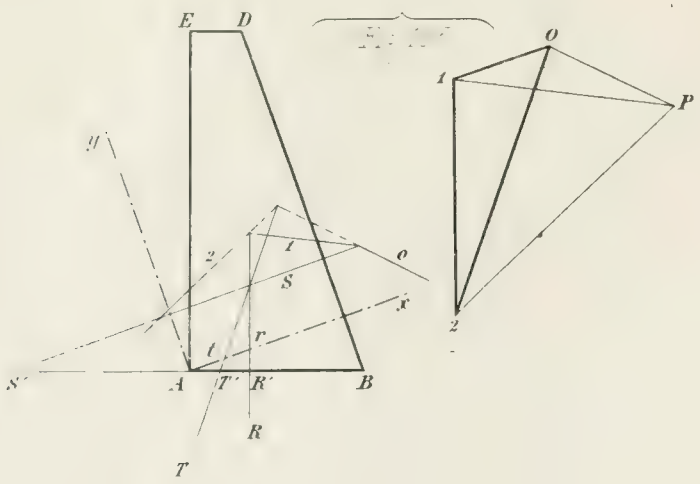


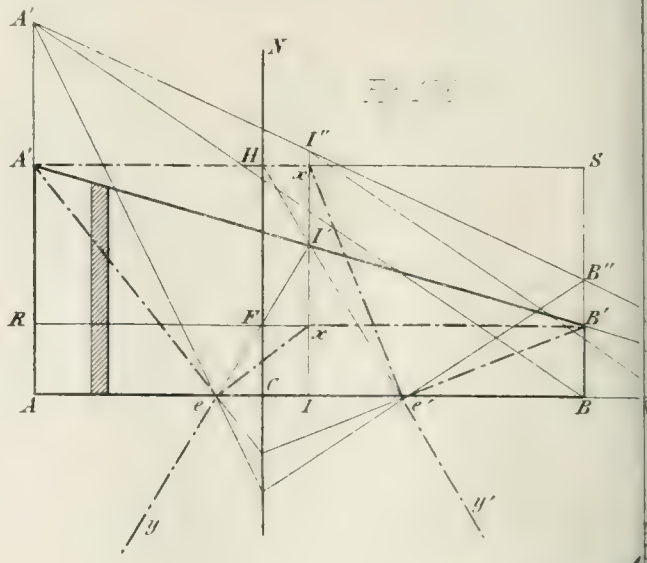

B
L
S1
S2
S3
S4

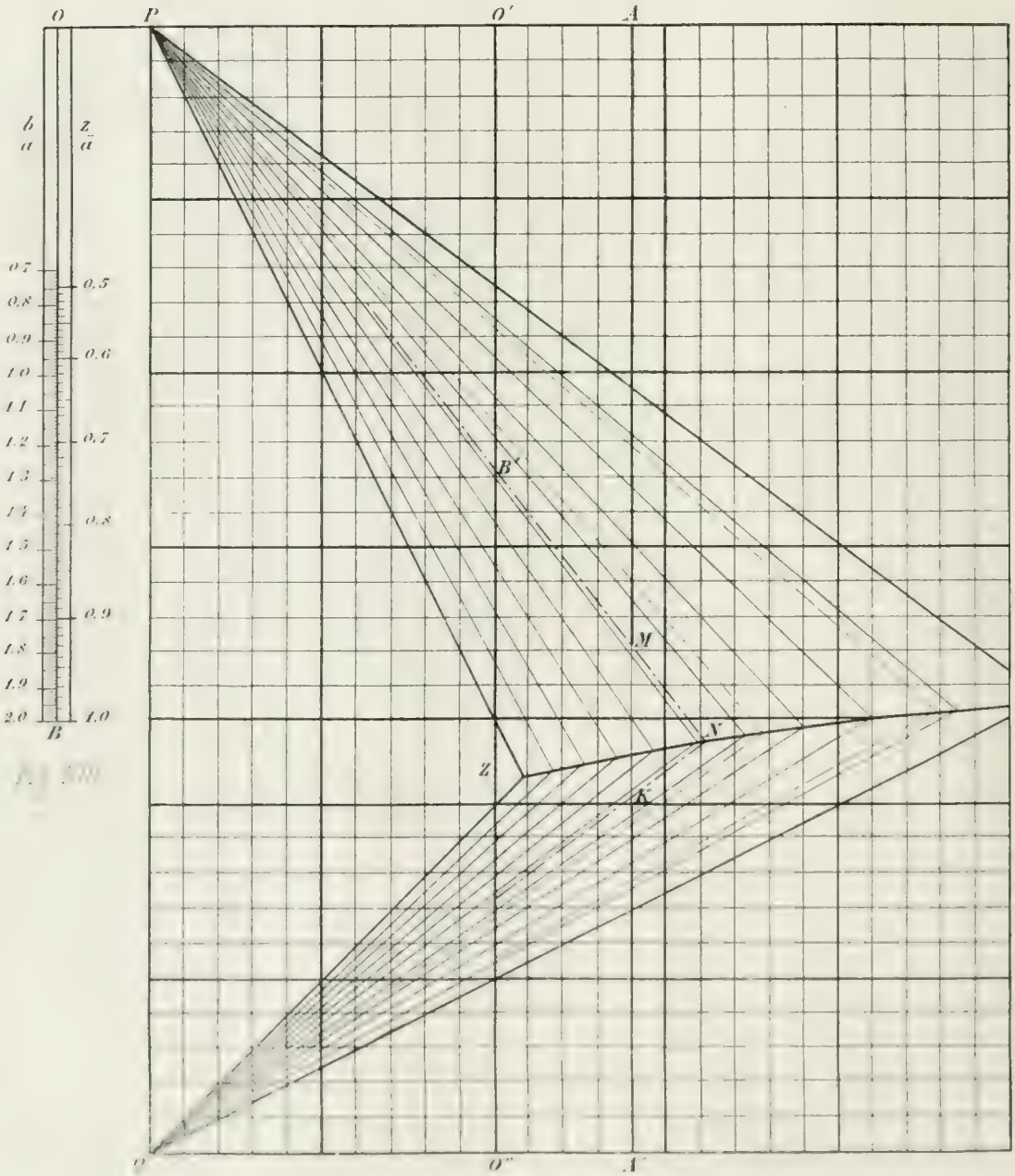

O
P
E'
E
B
C
A
P
P'
D

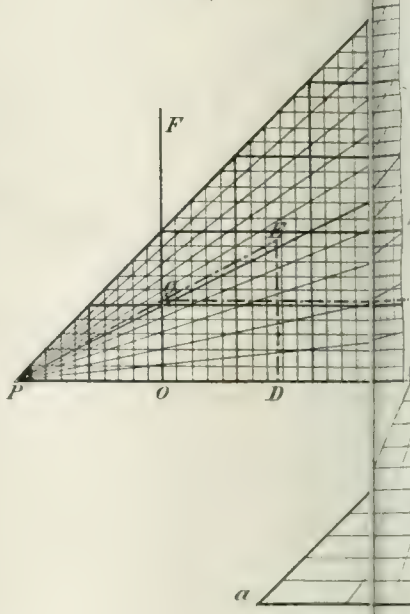

100 frs
90
80
70
60
50
40
30
20
10
0
Echelle des francs
Distance due aux temps perdus
500
100 frs
500
200
600

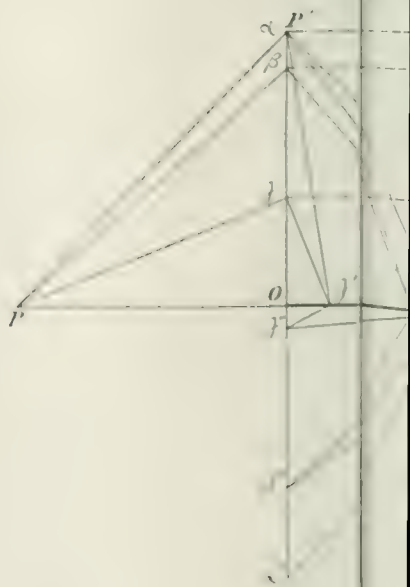
P
P
K1
L1
Dist due au v.t.p
Dist due au v.t.p
700
800
900
1000

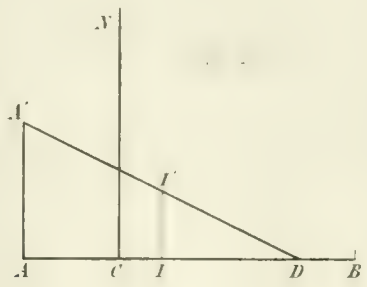

E
D
O
P
y'
z
t
o
S
x
r
S'
A
T'
R'
B
R
T
1
2

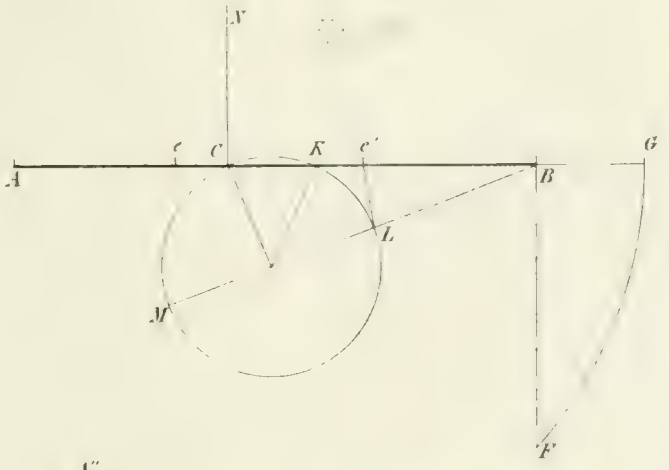

A'
N
H
I''
S
x'
I'
B''
R
F
x
B'
C
A
e
I
e'
B
y
y'

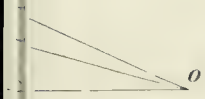

O
P
O'
A
b/a
z/a
0,7
0,8
0,9
1,0
1,1
1,2
1,3
1,4
1,5
1,6
1,7
1,8
1,9
2,0
0,5
0,6
0,7
0,8
0,9
1,0
B
B'
M
N
Z
O
O''
A'

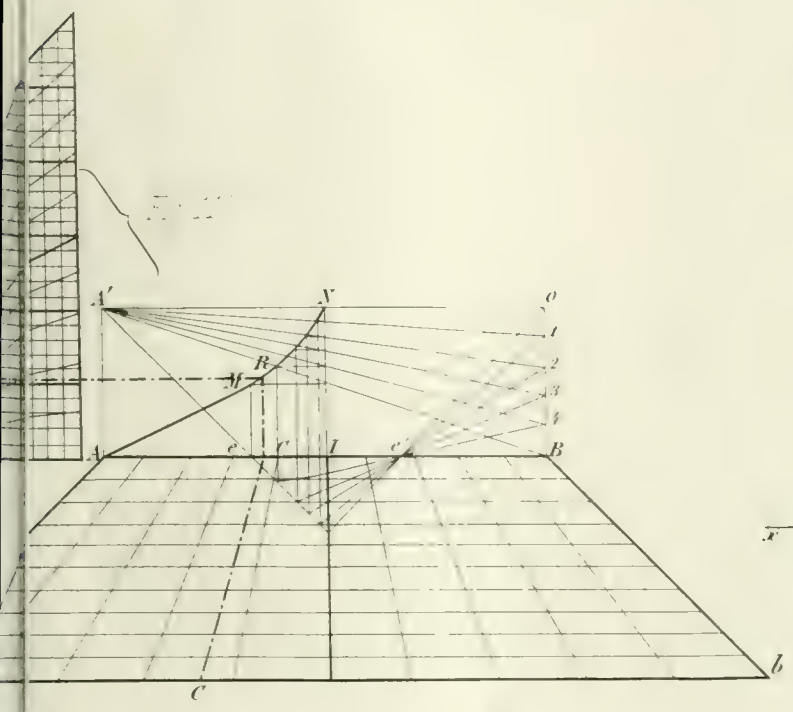

F
E
G
P
O
D
a

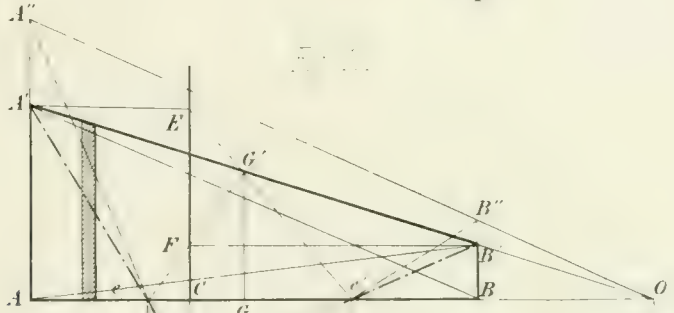

P'
P
O
I
I'

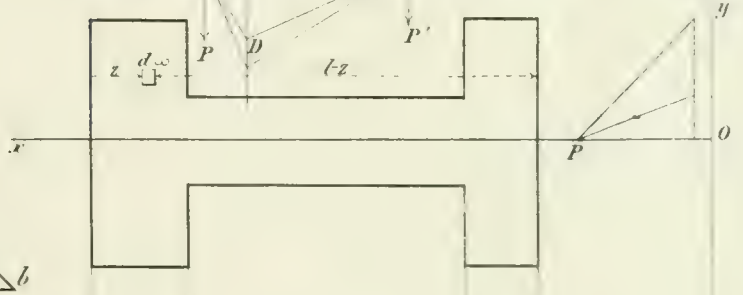

N
A'
I'
A
C
I
D
B

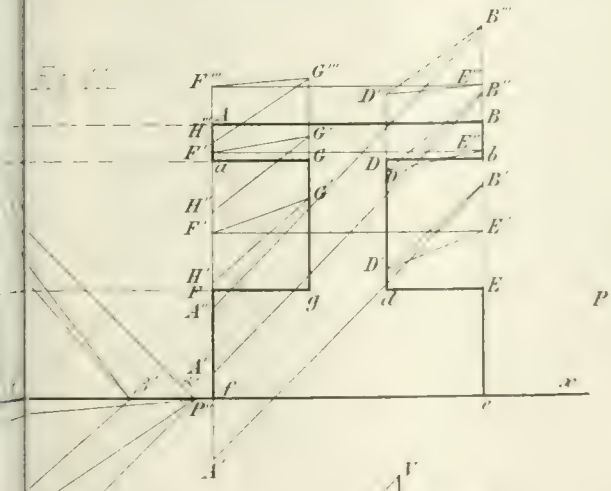

N
c
C
K
c'
A
B
G
L
M
F

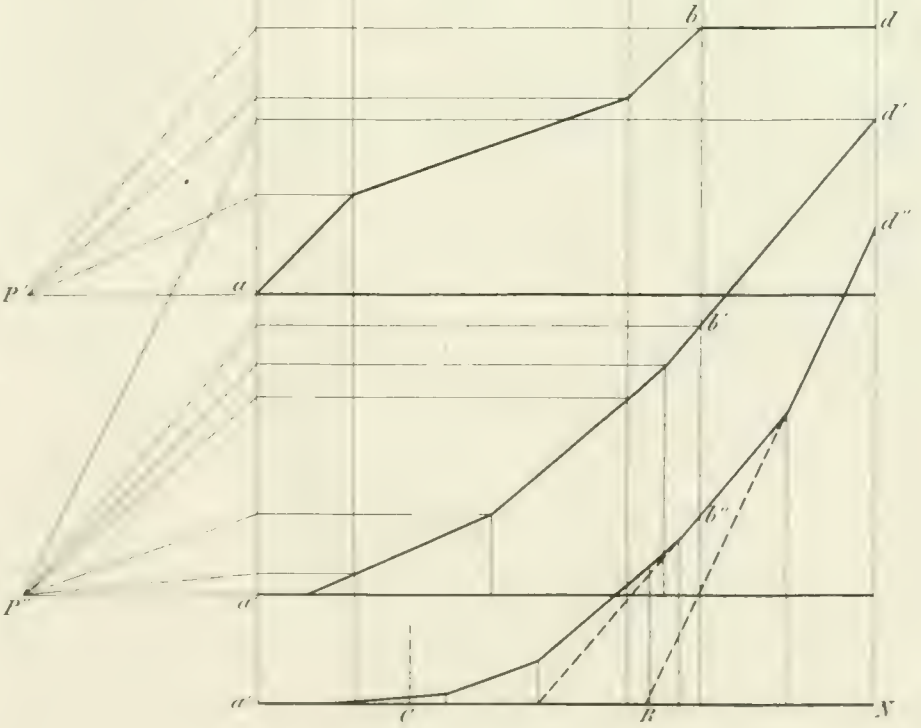

O

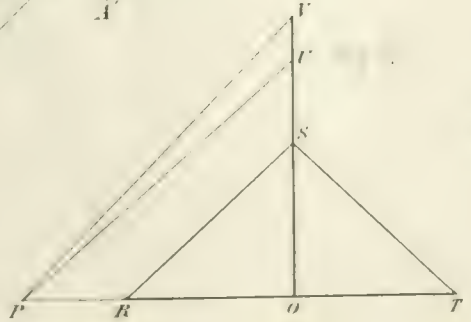

A'
N
O
1
2
3
4
R
M
A
c
C
I
c'
B
C
b

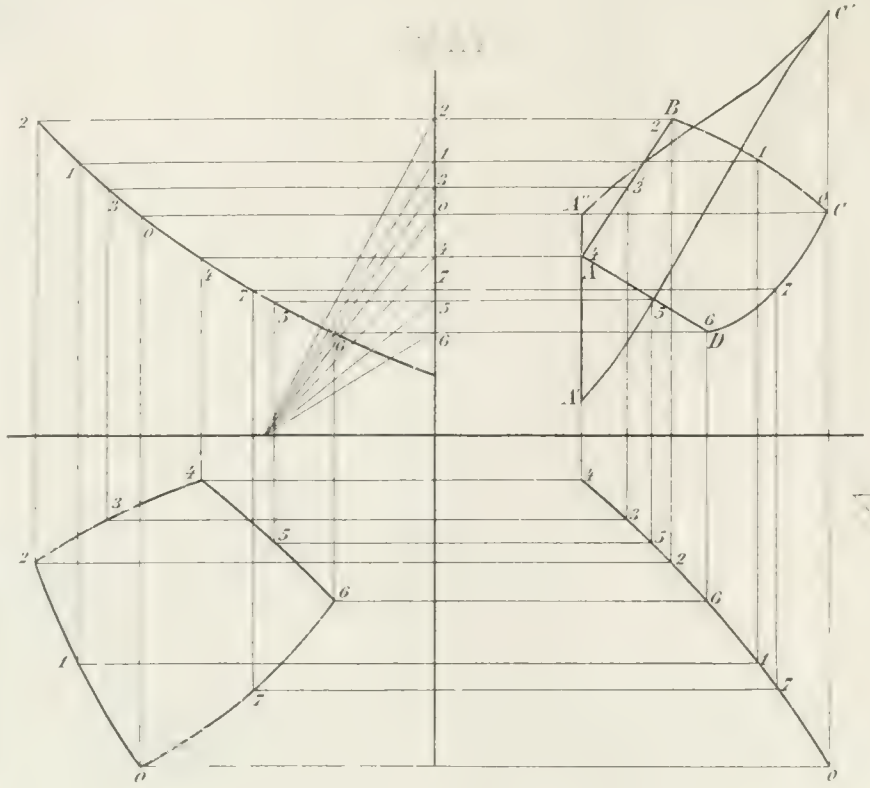

A''
A'
E'
G'
B''
F'
B
A
e
C
G
c'
B
O

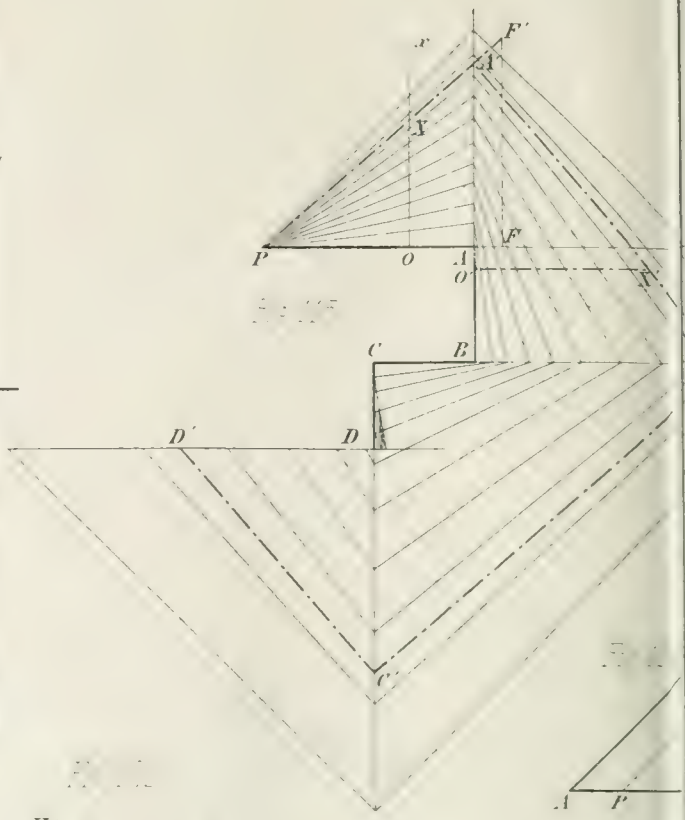

P
D
P'
z
d
l-z
y
x
P
O

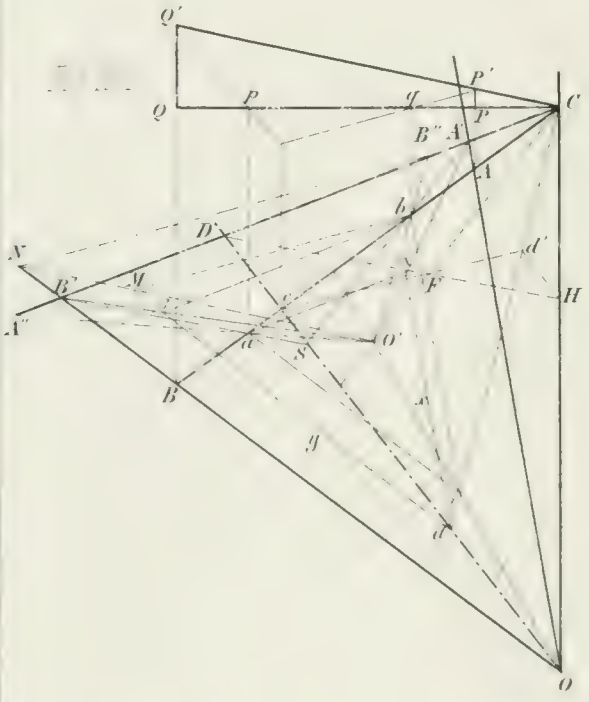

B'''
F'''
G'''
E'''
D'
A
B''
B
H''
G'
F'
a
G
E''
b
D
D
B'
H'
G
F'
E'
H'
D'
P
A''
g
d
E
A'
3'
P'
f
x
A

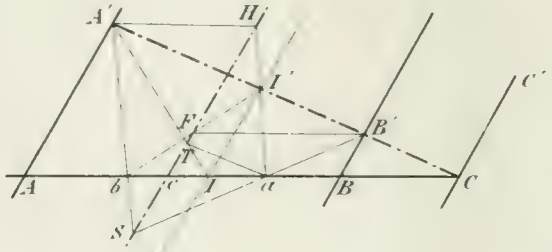

b
d
d'
P'
a
d''
b'
b''
P''
a'
C
R
N

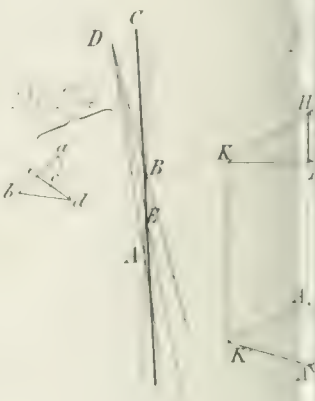

V
U
S
P
R
O
T

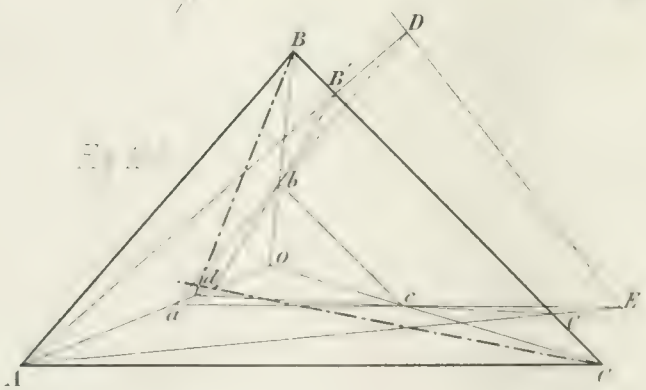


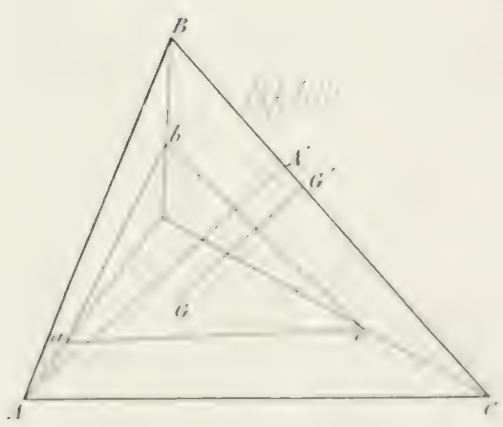


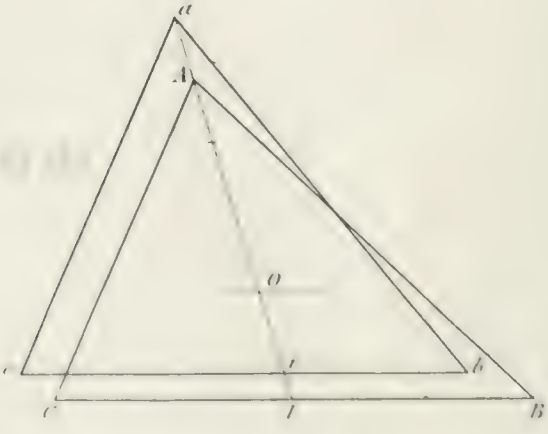












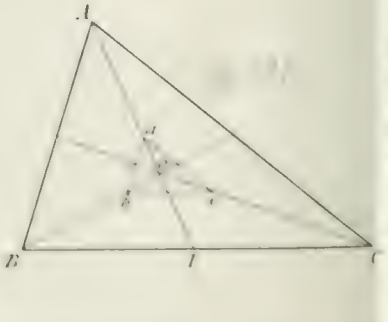
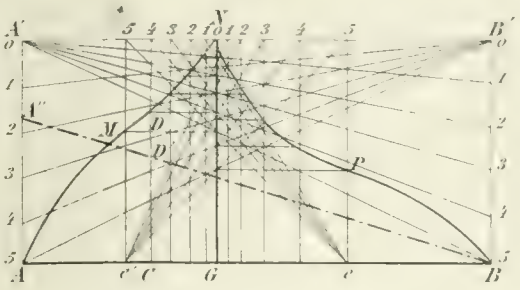
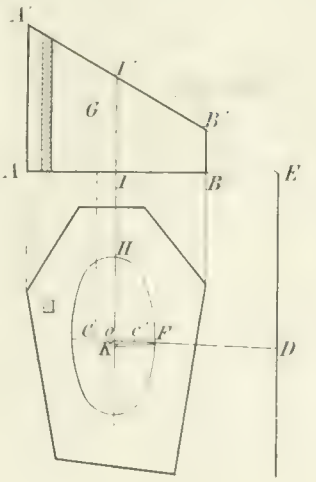
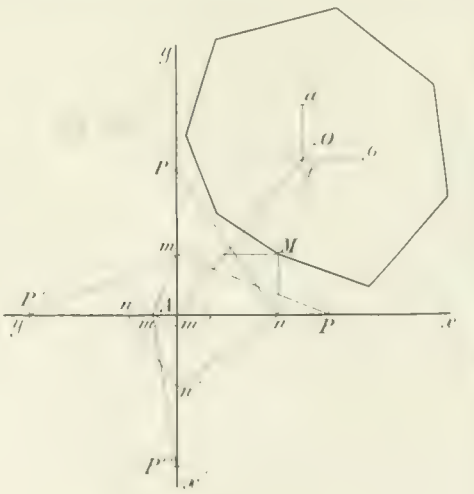
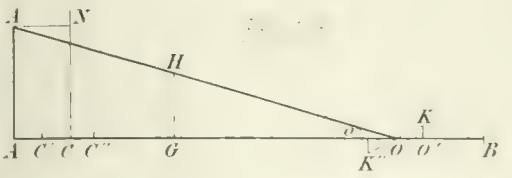


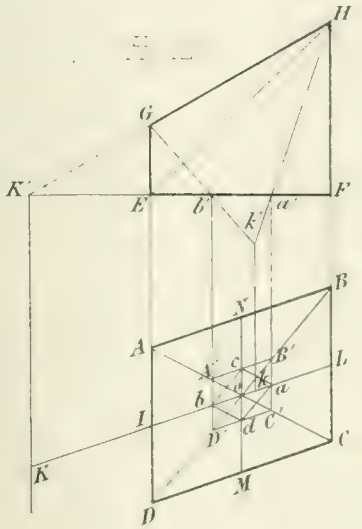
Fig. 117

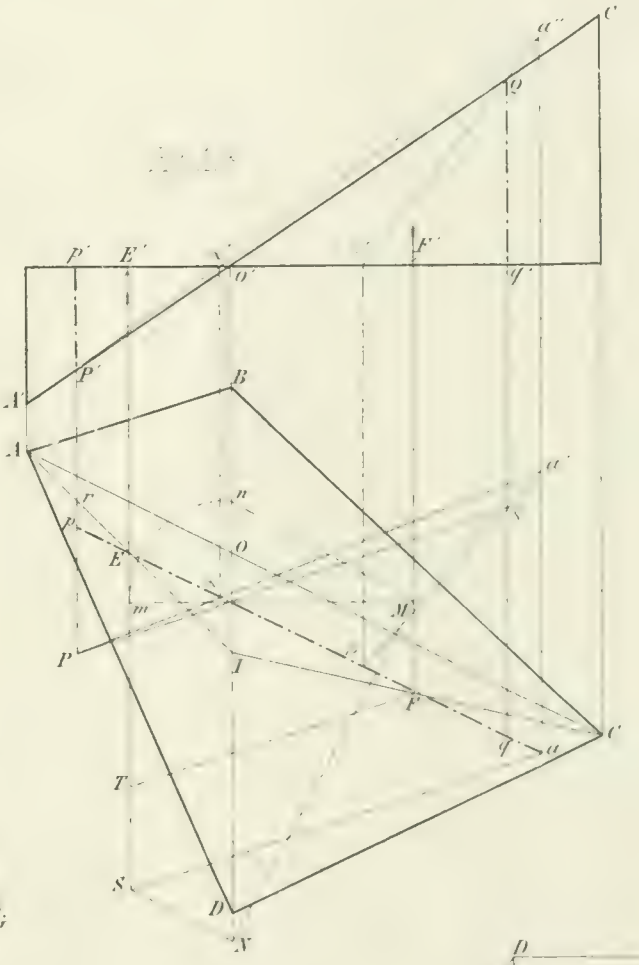


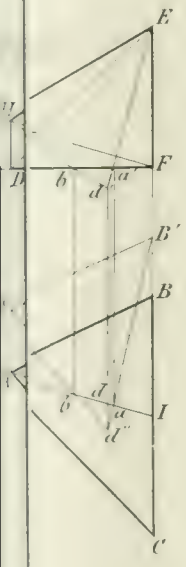


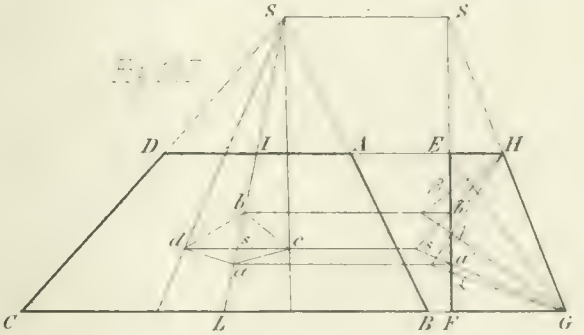


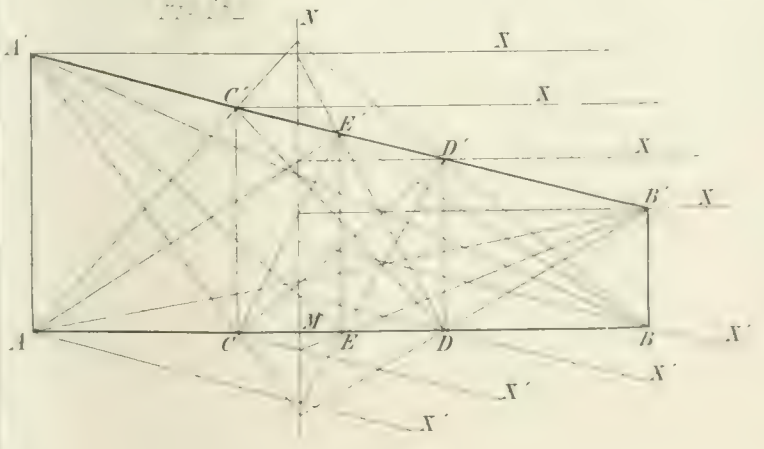


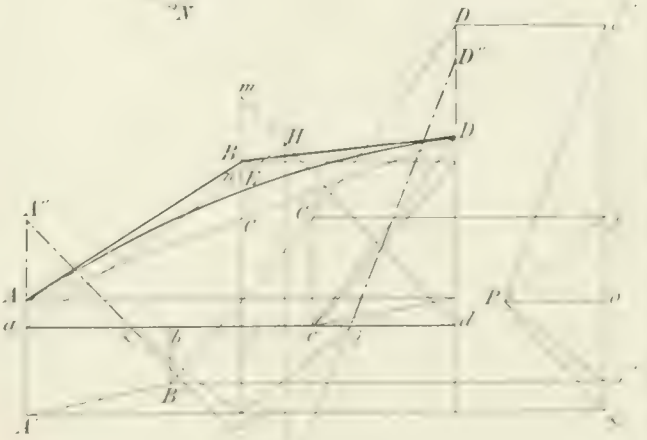


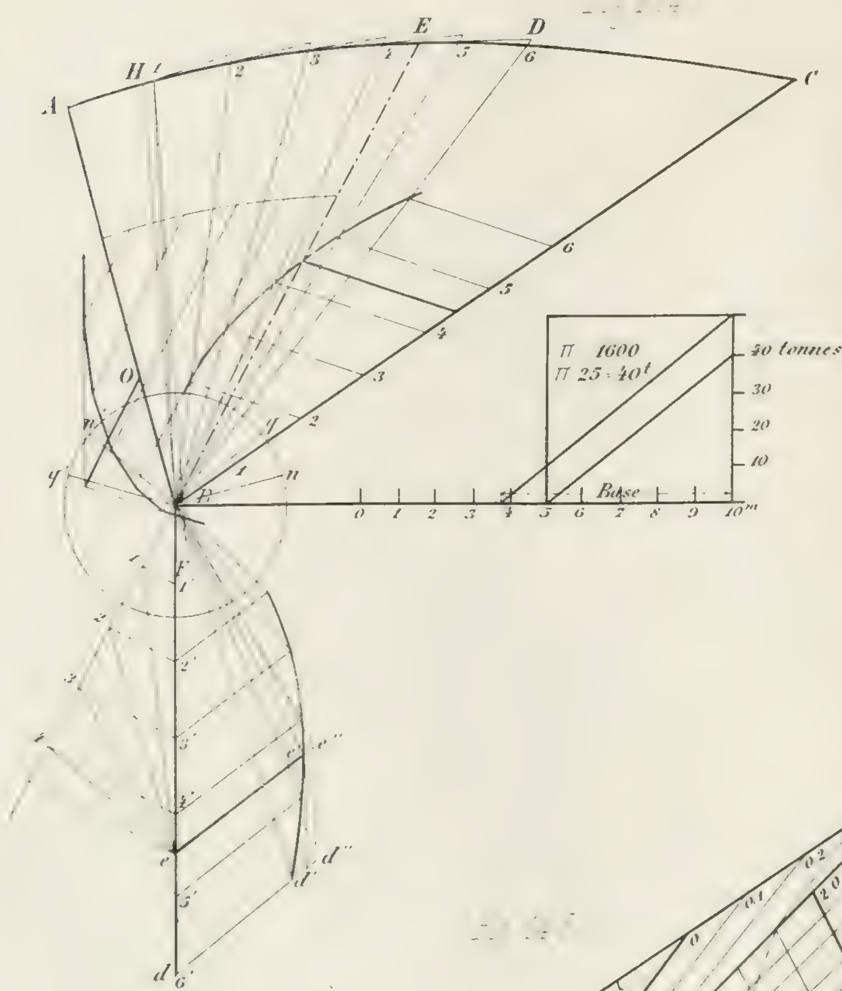


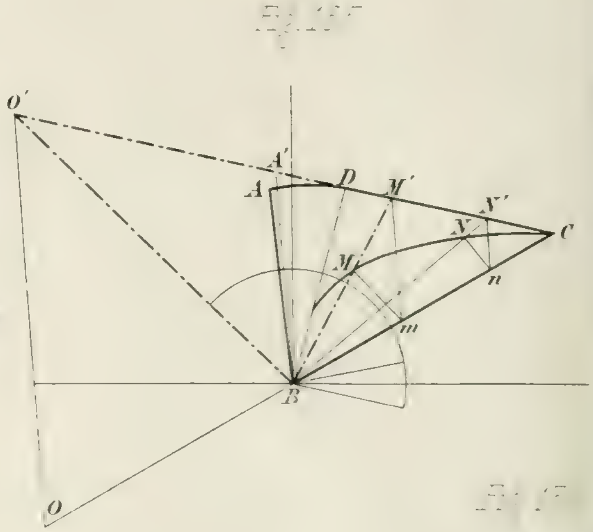


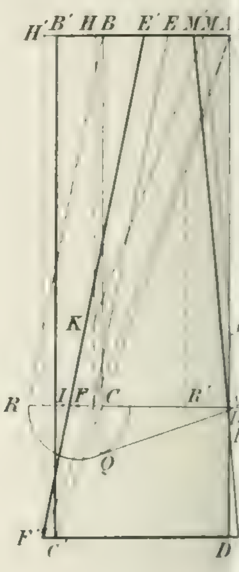







Π 1600
Π 25 : 40t
40 tonnes
30
20
10
Base





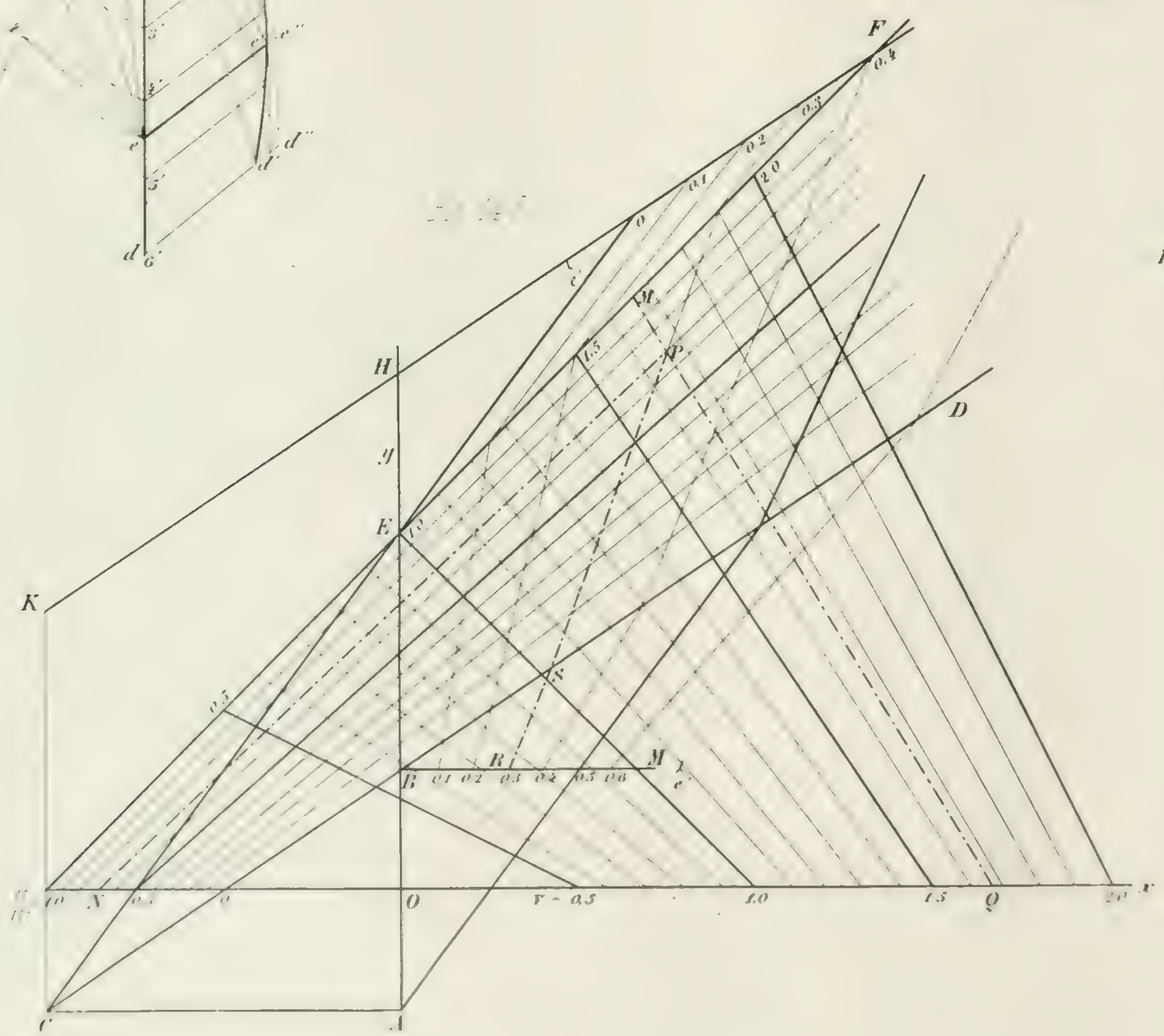
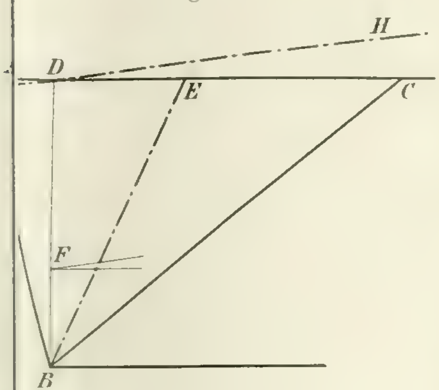
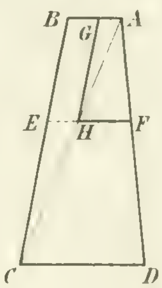
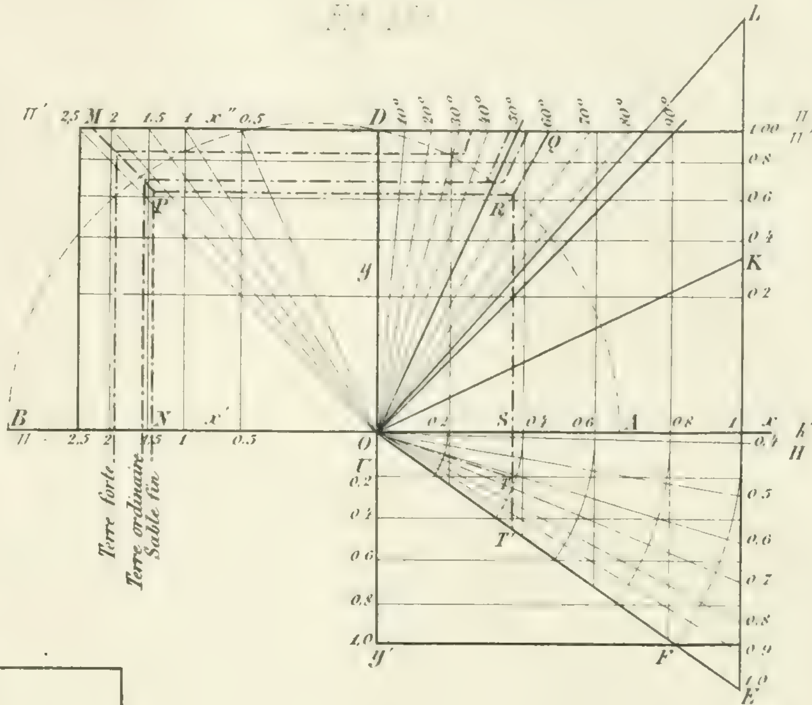
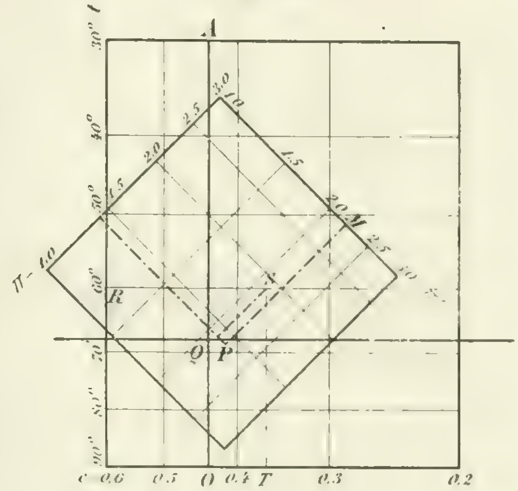


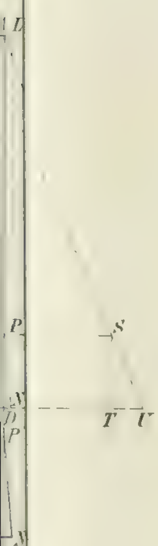
Fig. 136

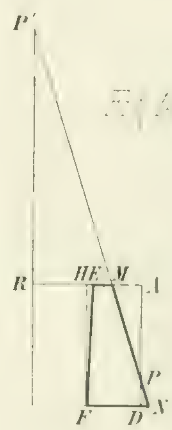

D
H
E
C
F
B

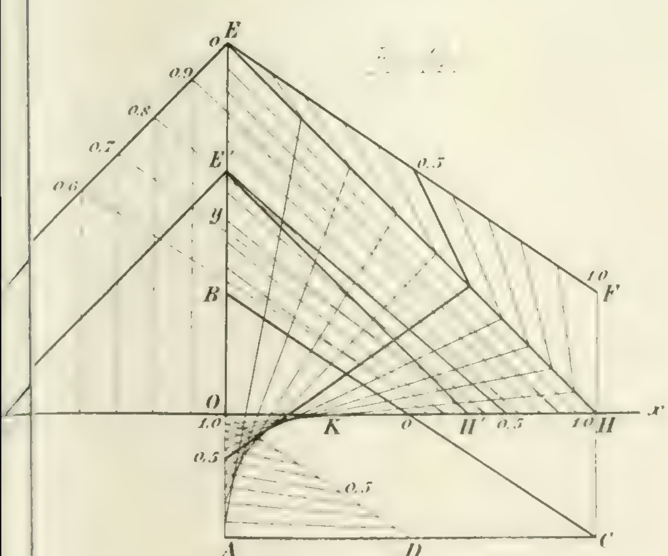

B
G
A
E
H
F
C
D

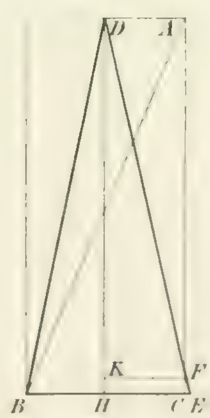

Terre forte.
Terre ordinaire
Sable fin



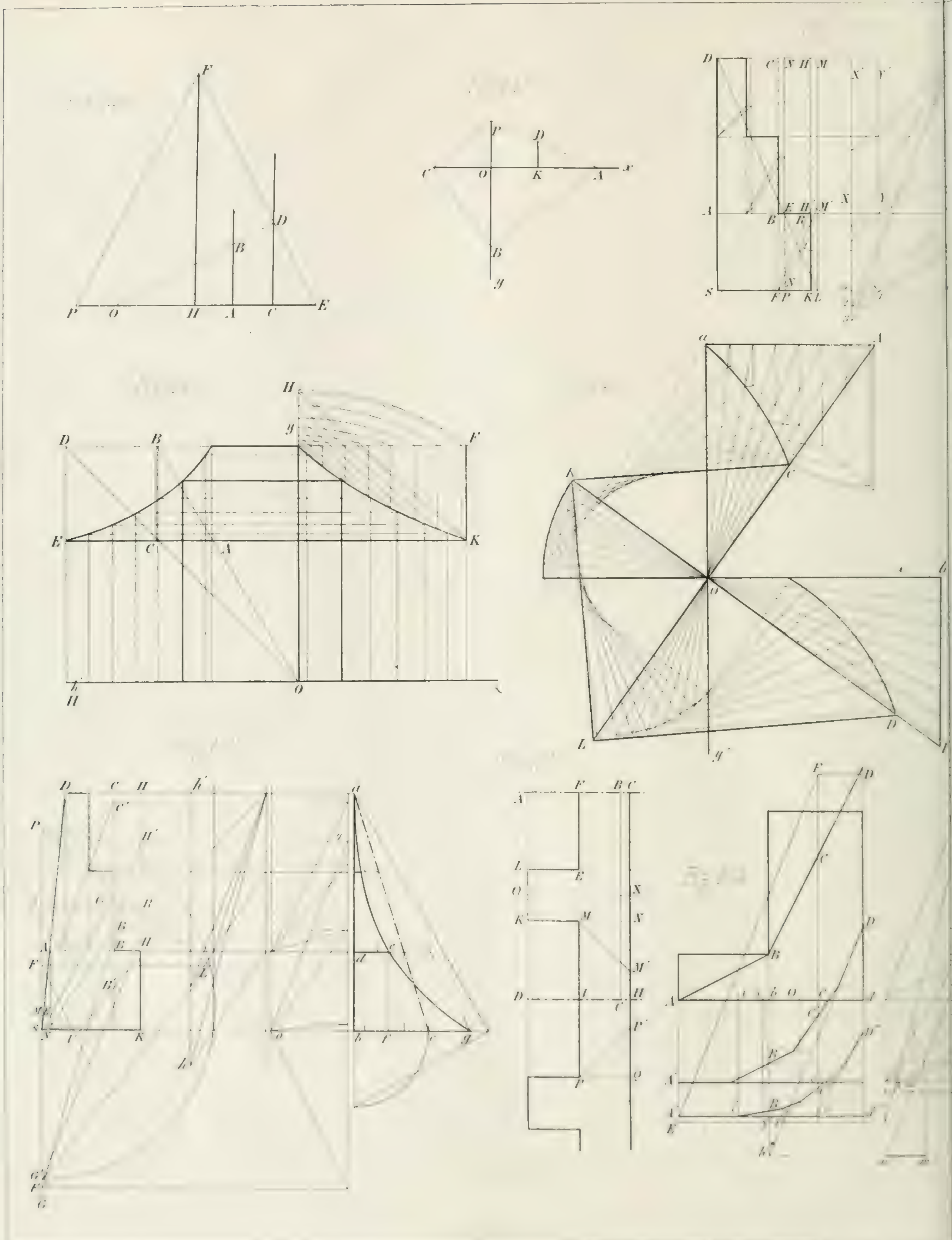





E
E'
B
O
K
H'
H
F
A
D
C


D
A
K
F
B
H
C E

C
A
B



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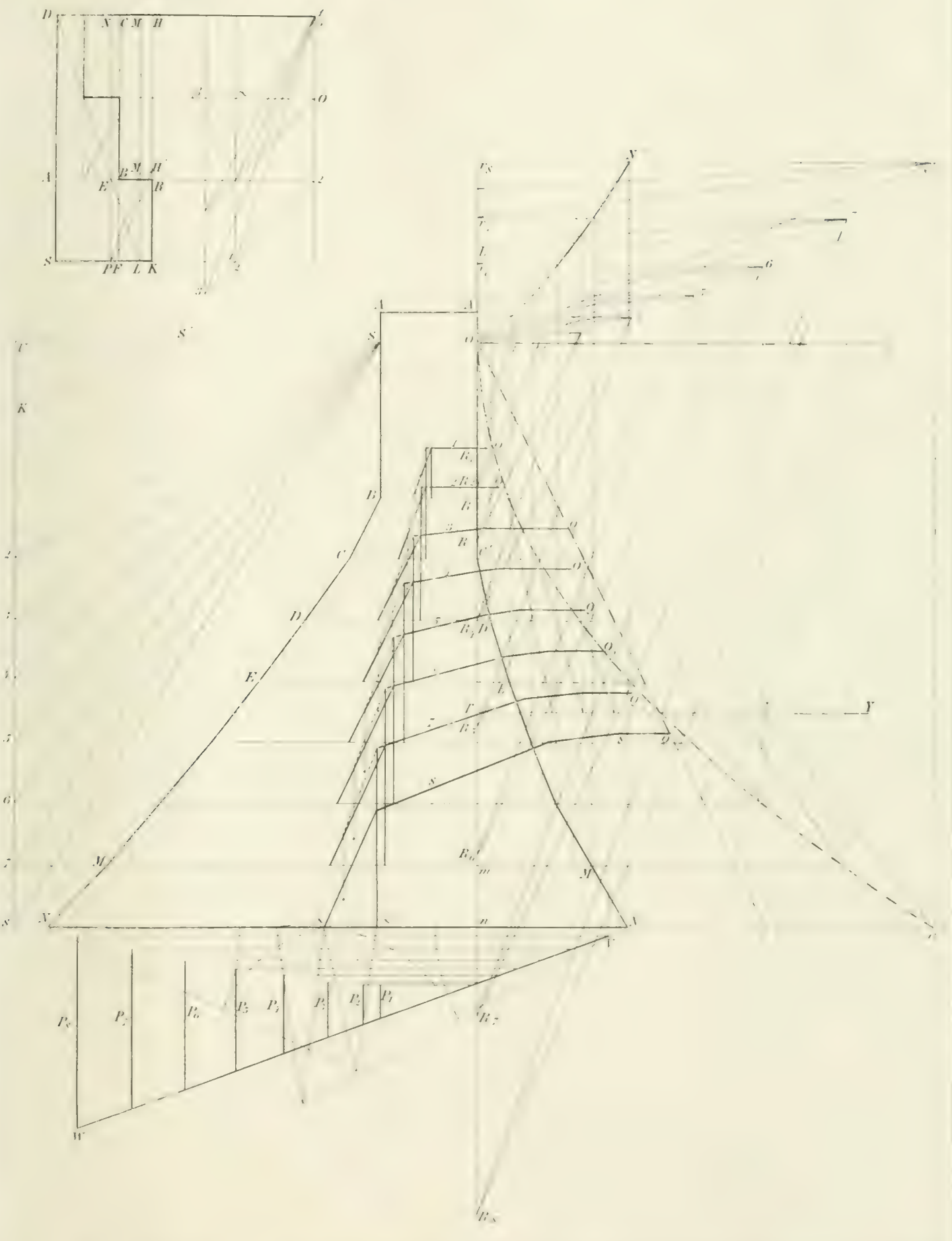

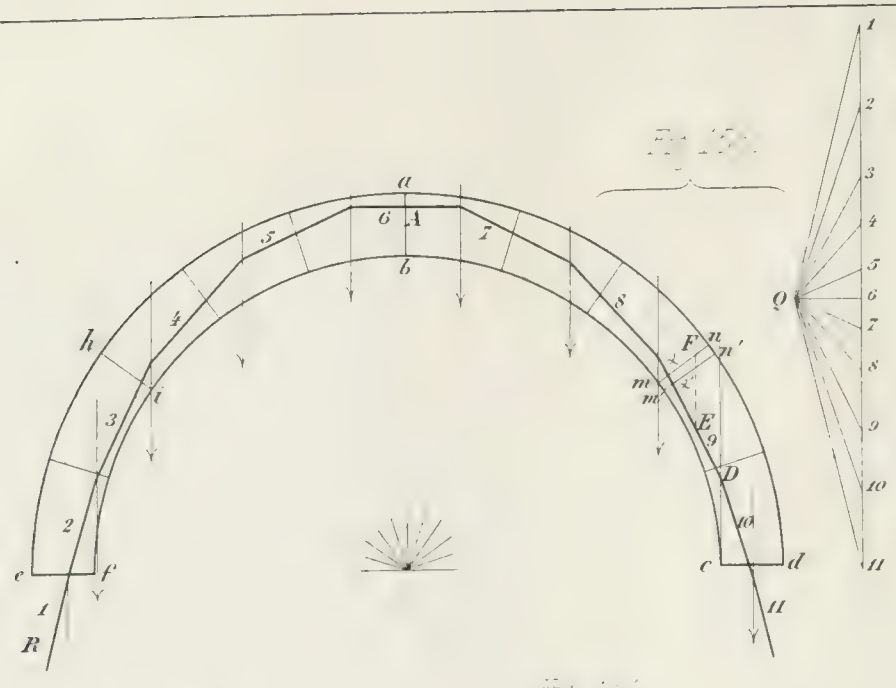

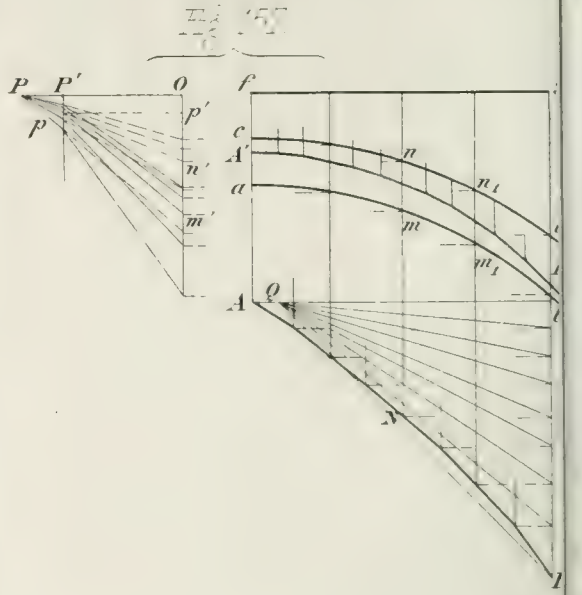

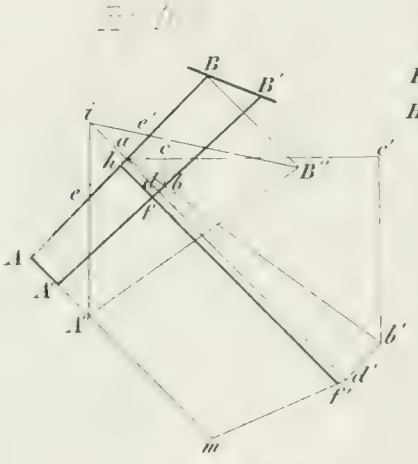

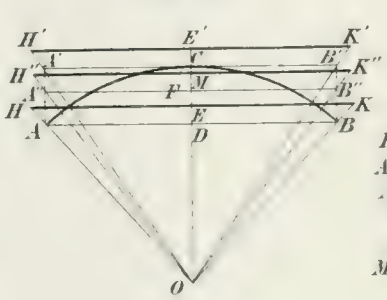

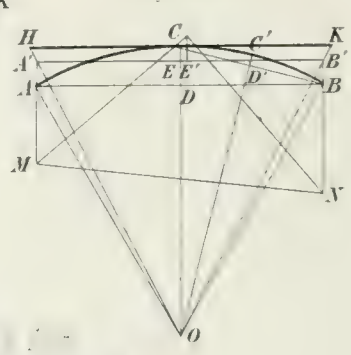

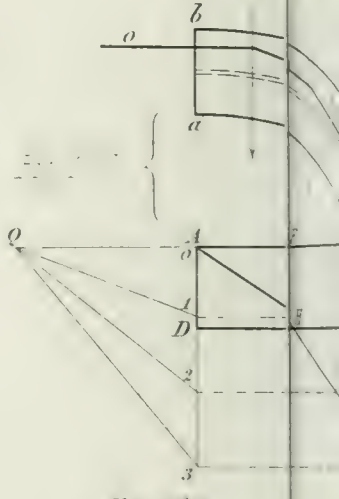

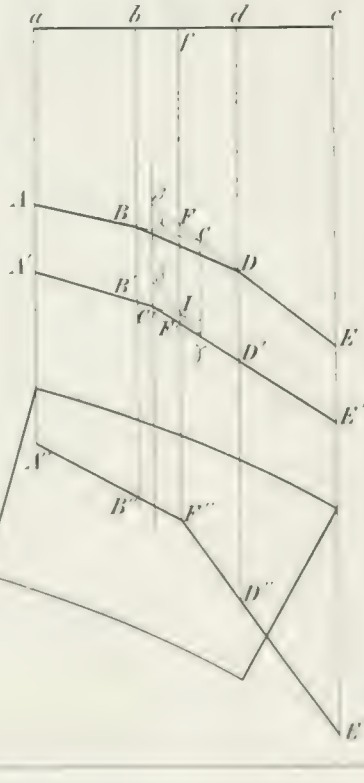

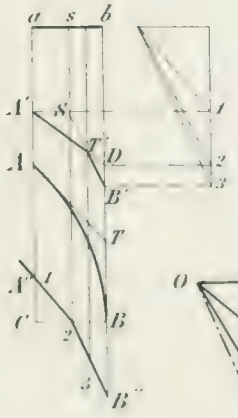

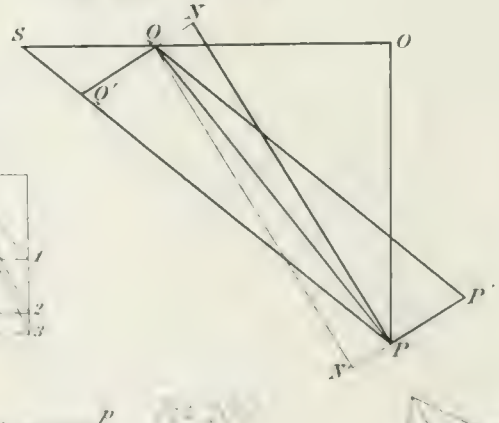

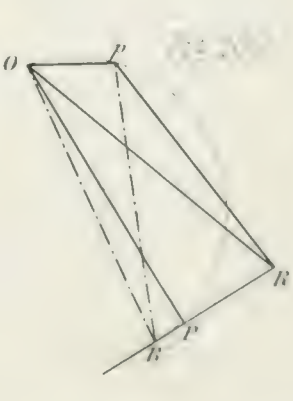

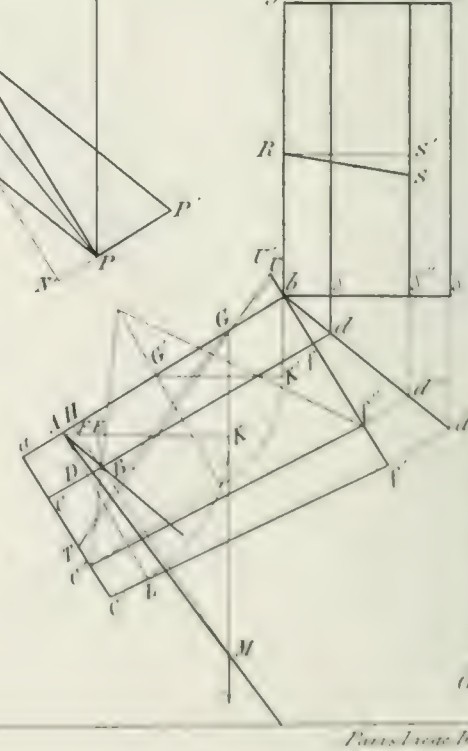

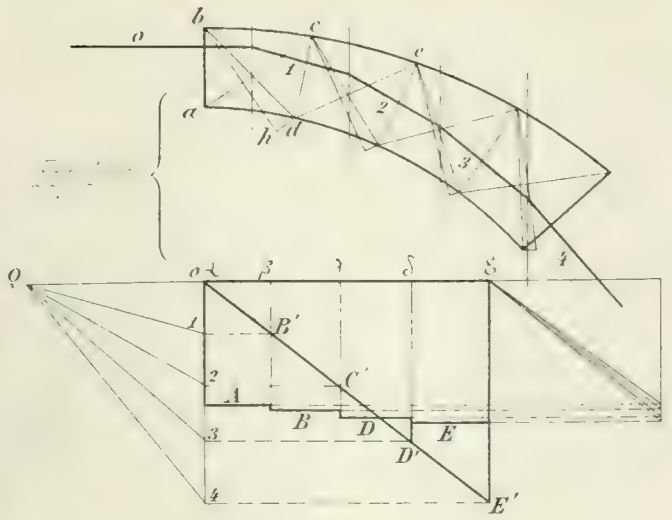

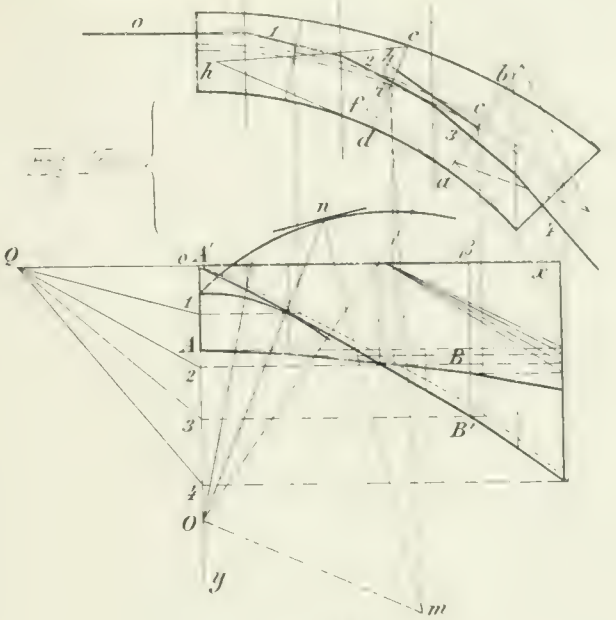

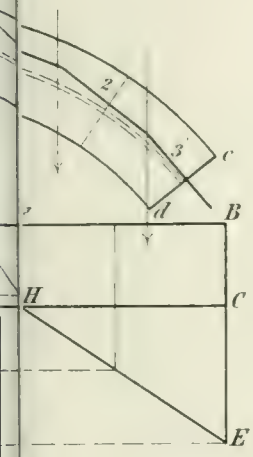

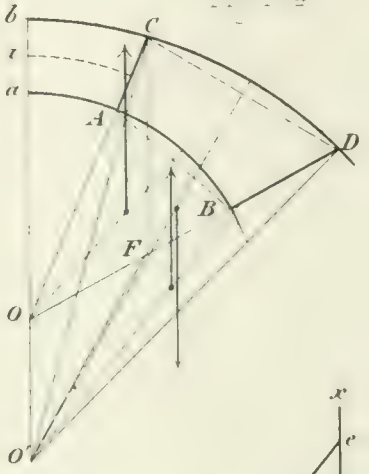

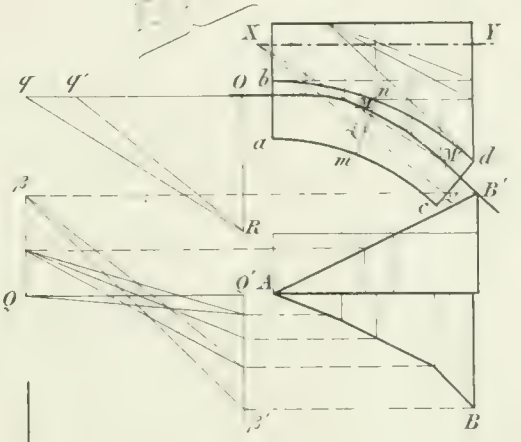

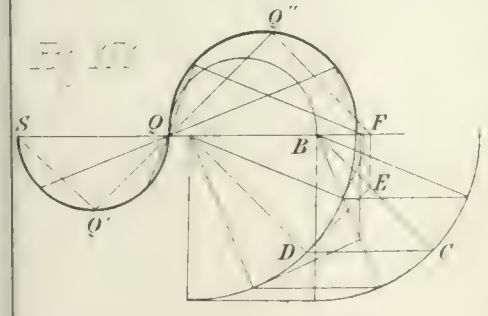

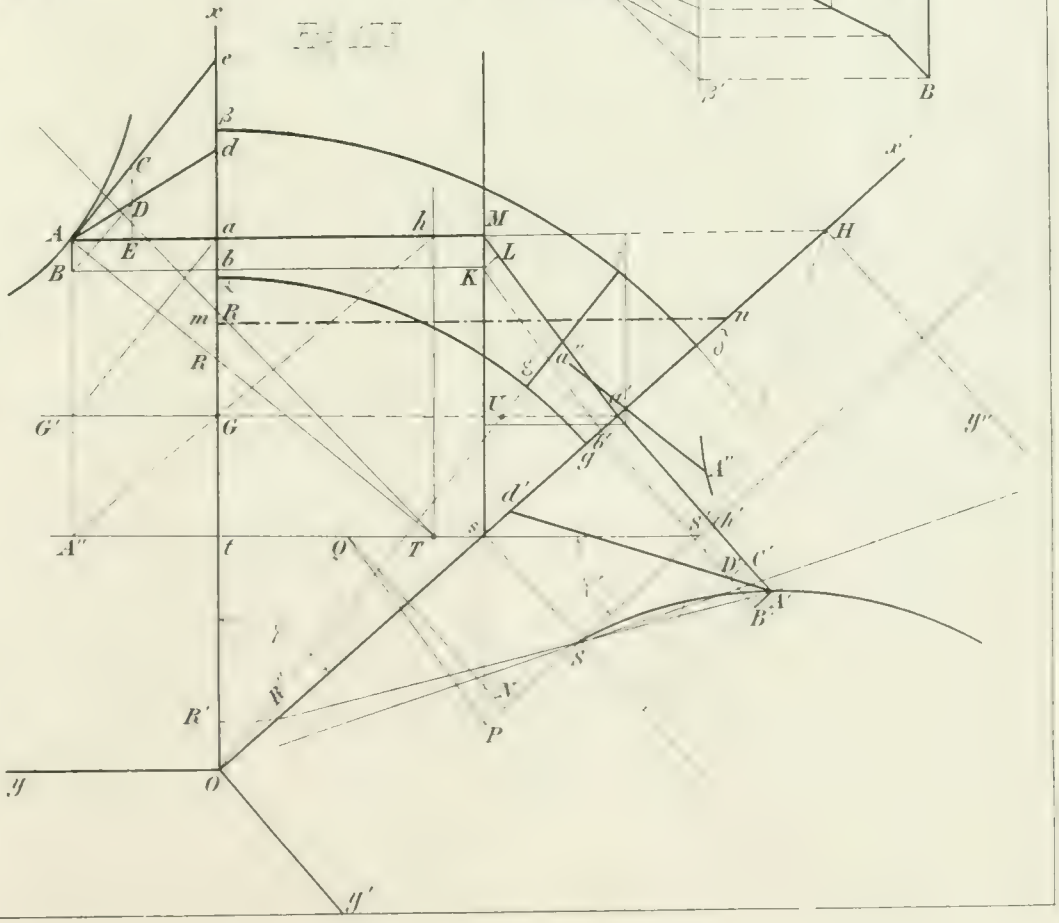

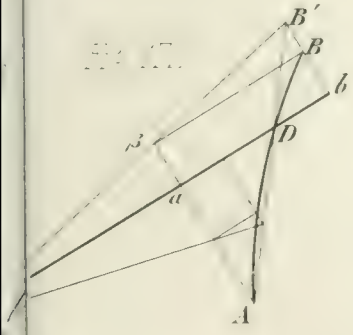

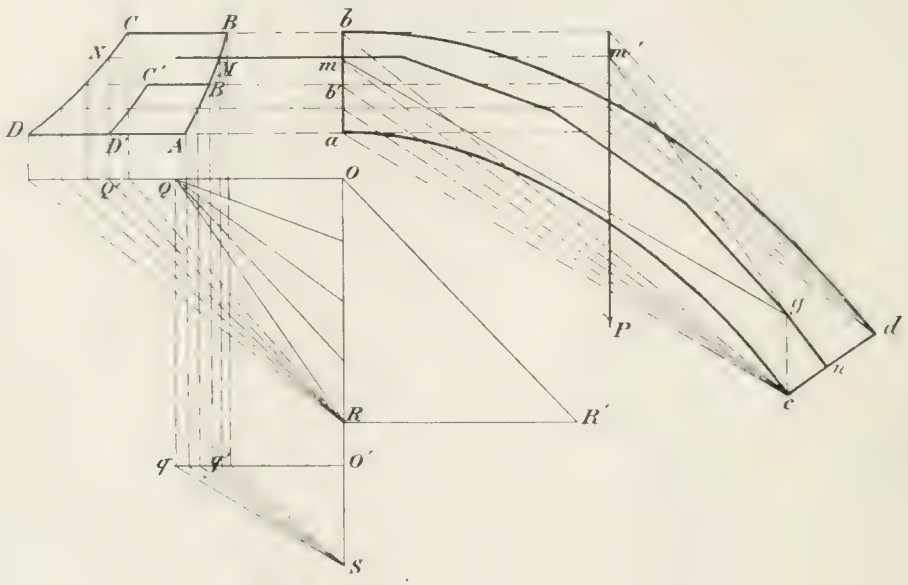

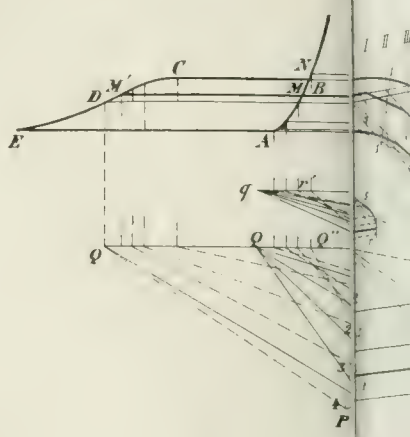

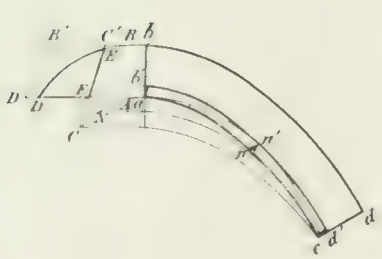

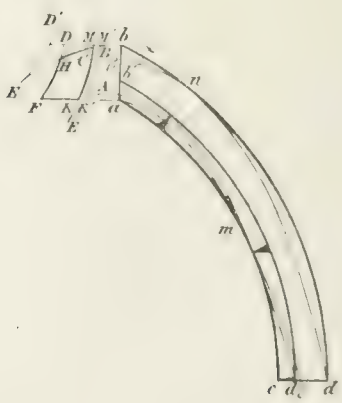

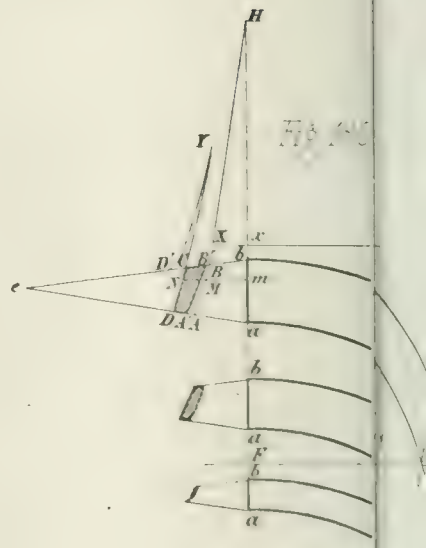

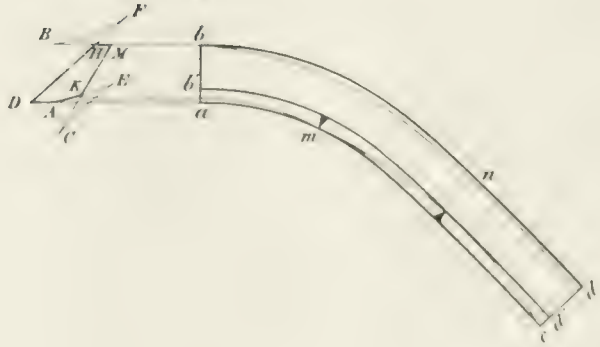

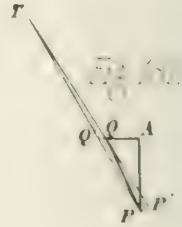

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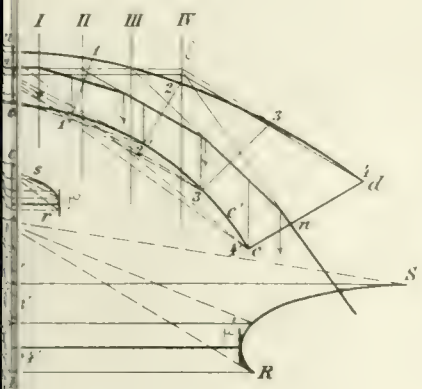
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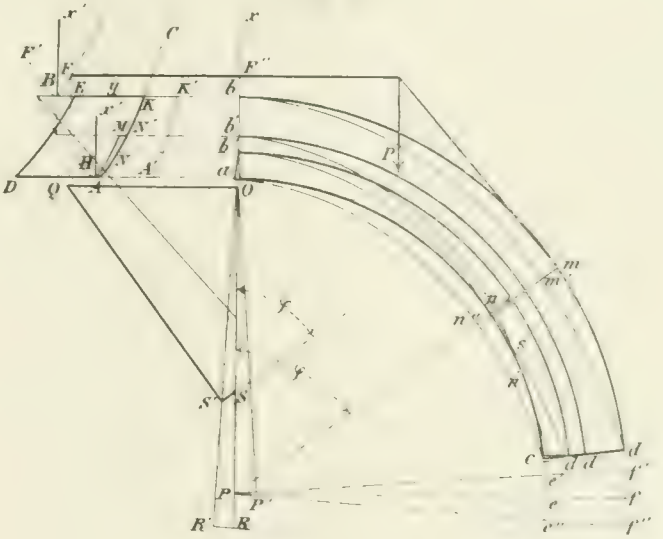
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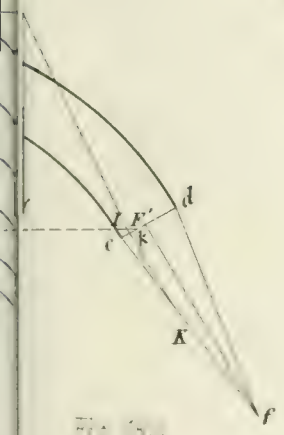
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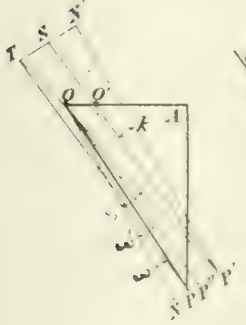
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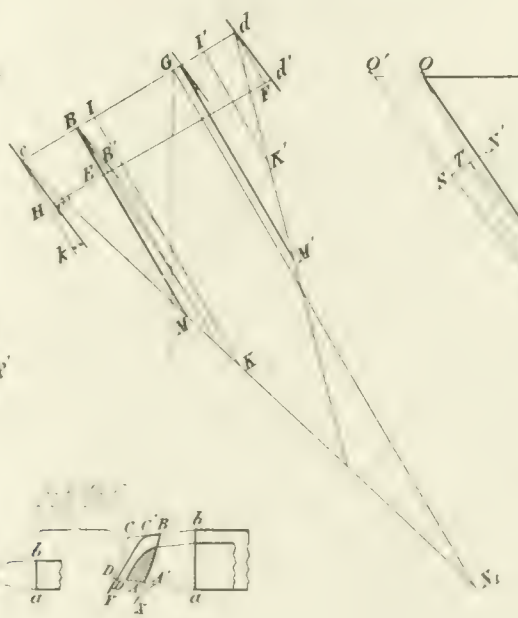
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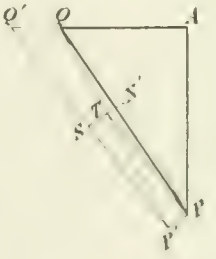
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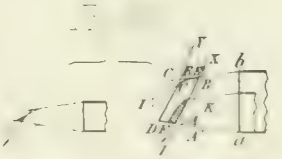

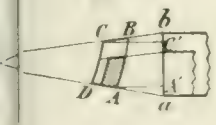
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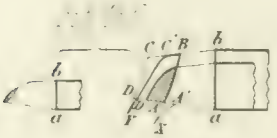

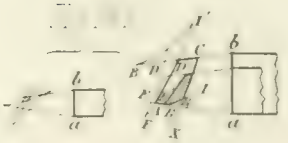

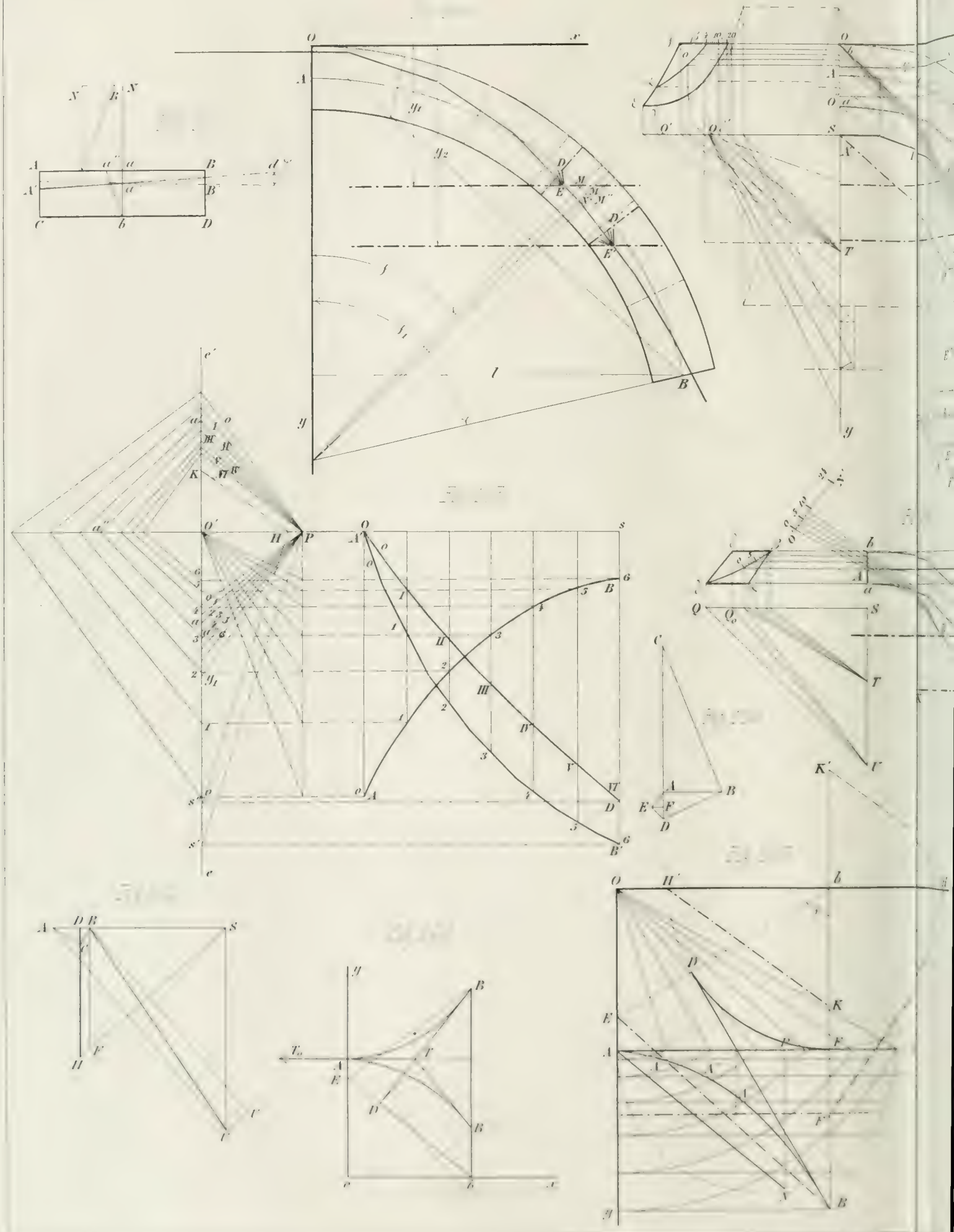

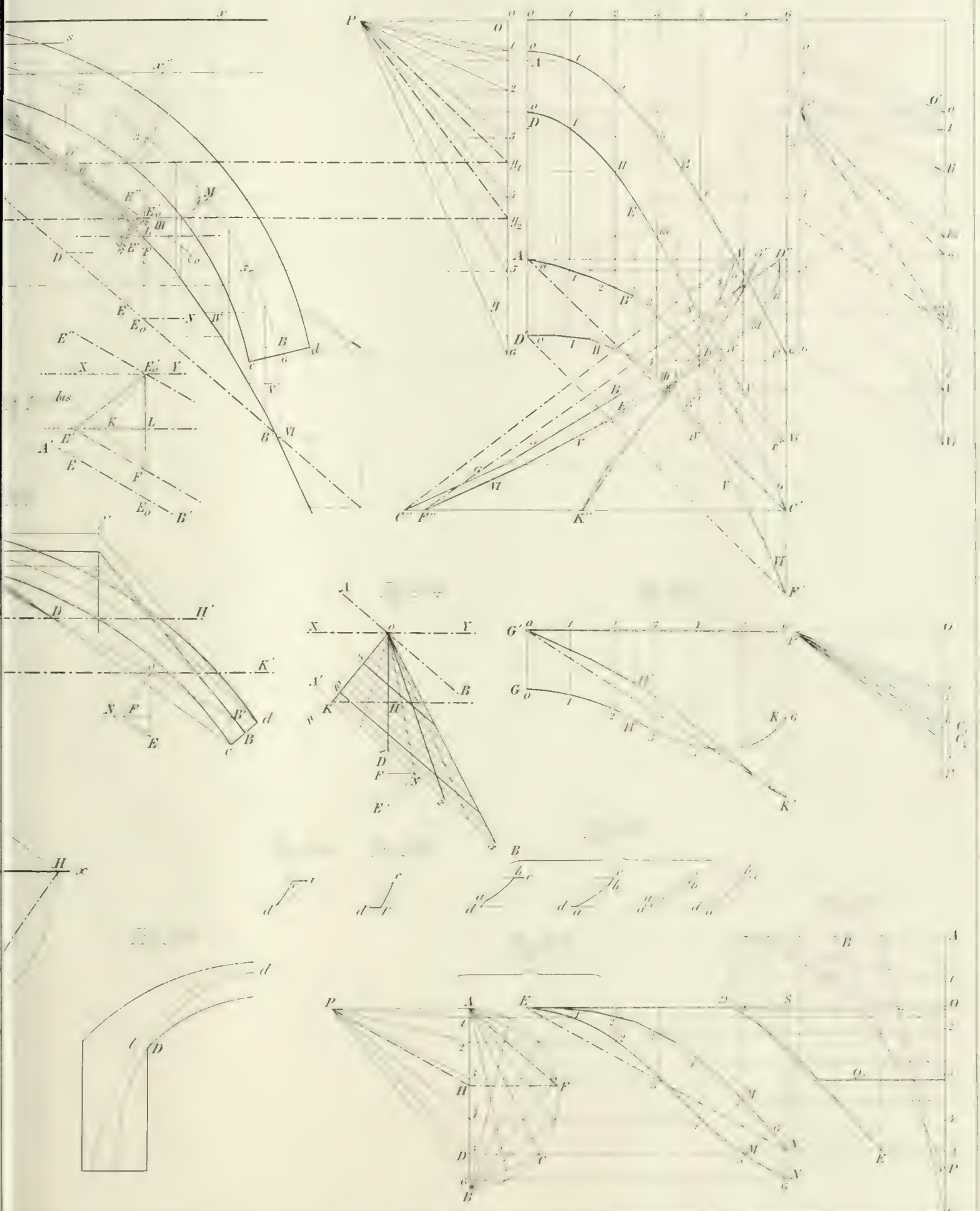

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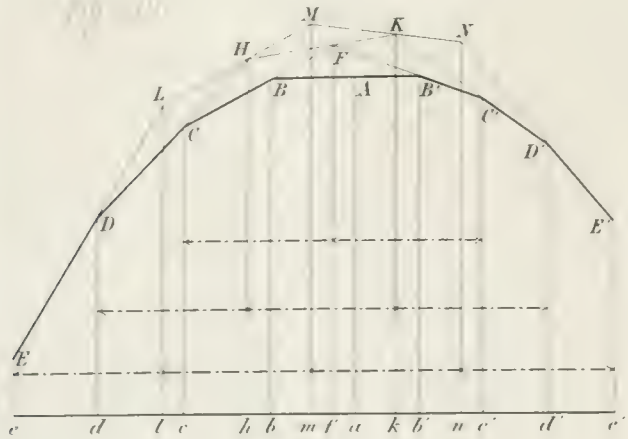
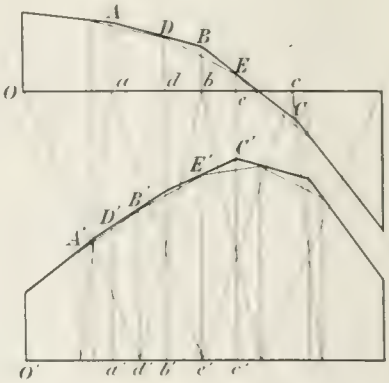
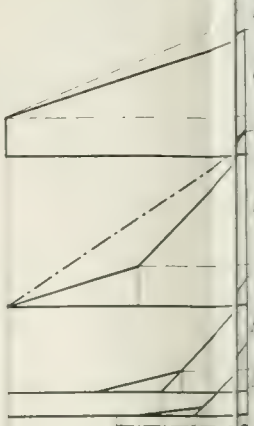
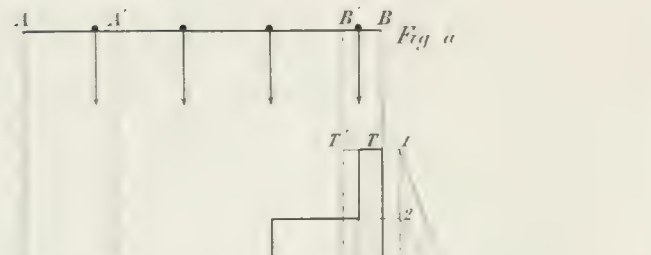
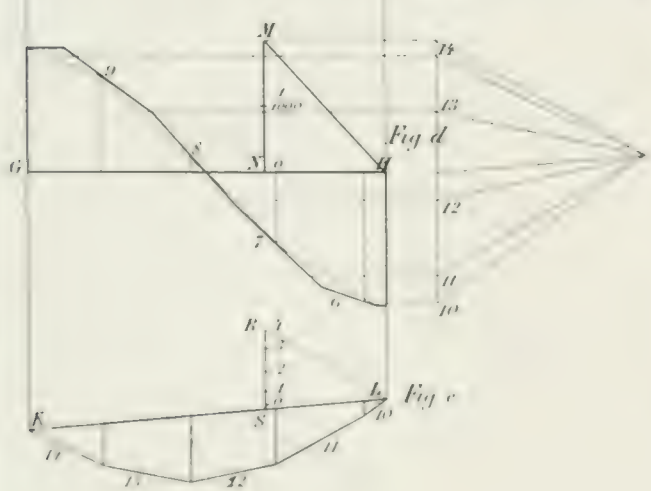
Fig. 208.

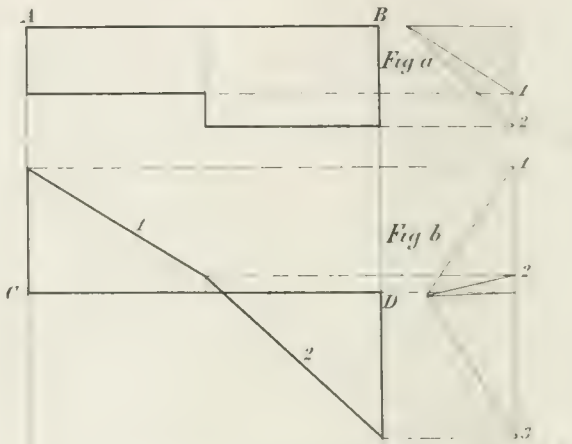


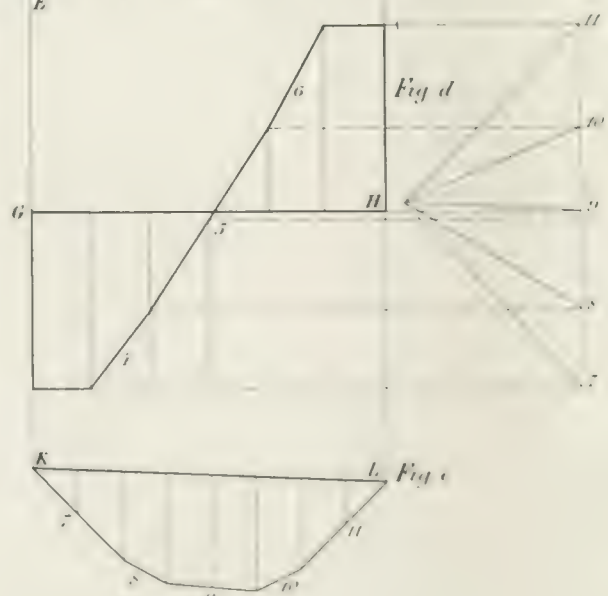


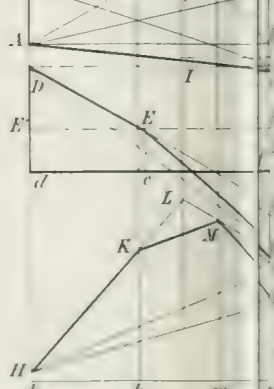


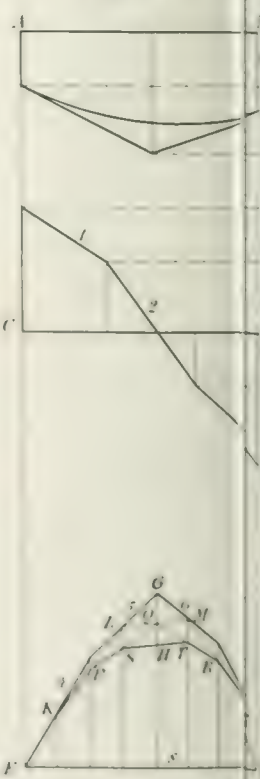












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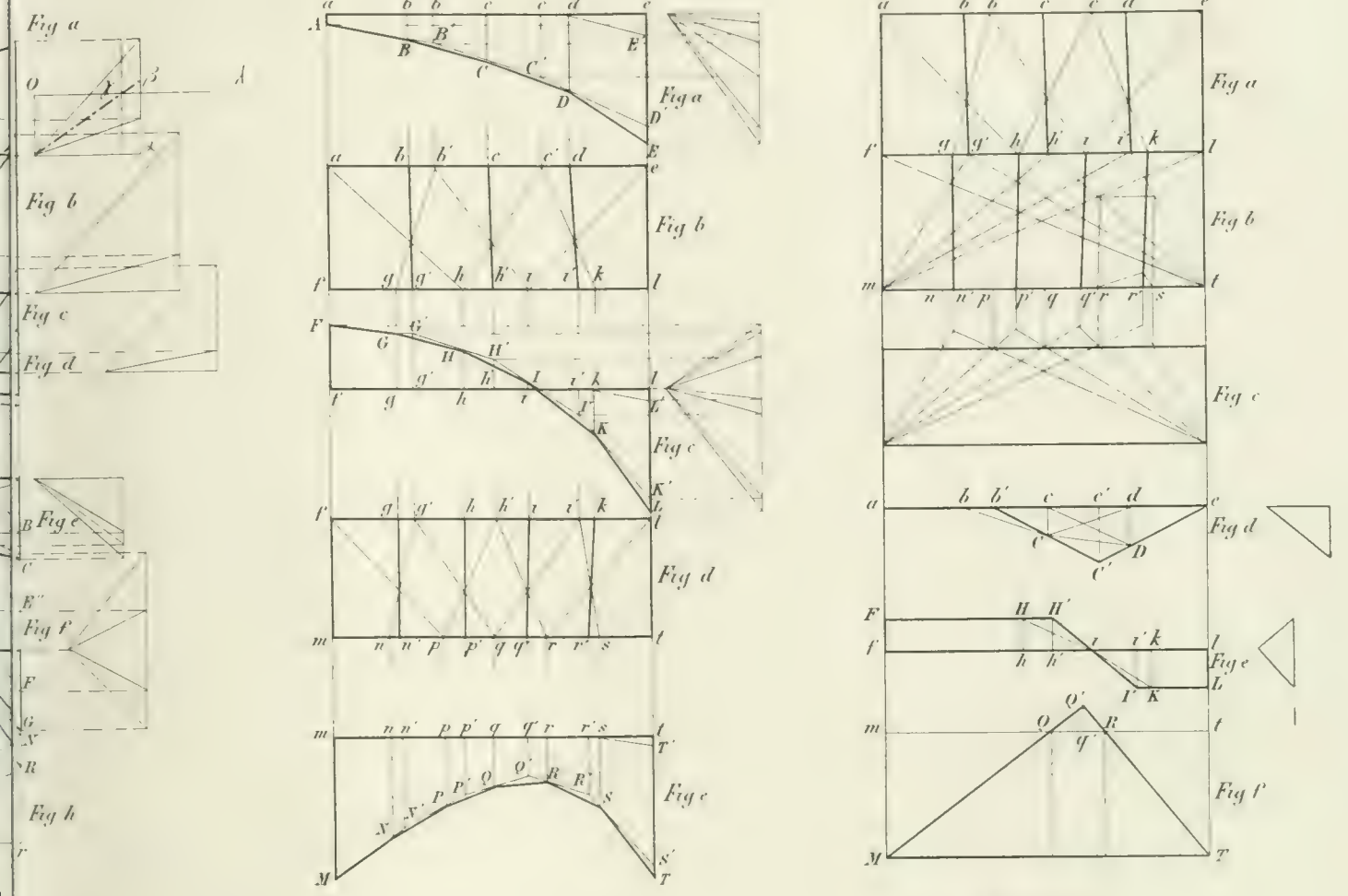
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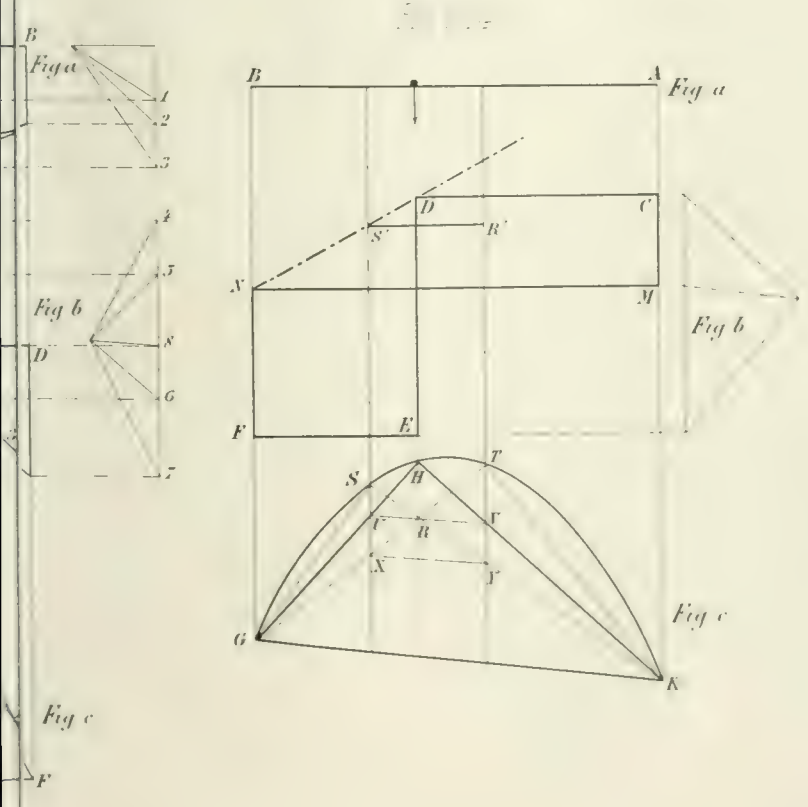
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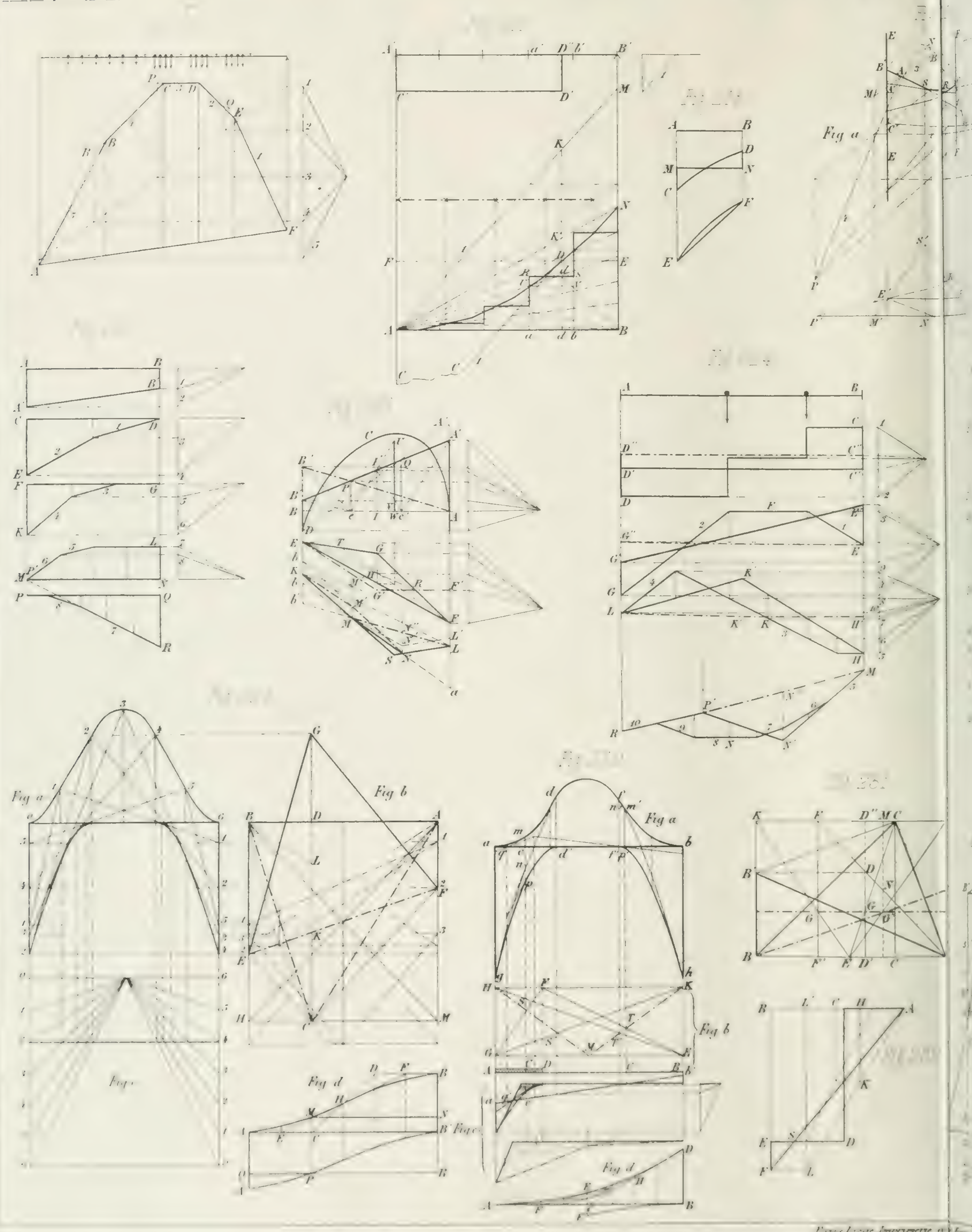
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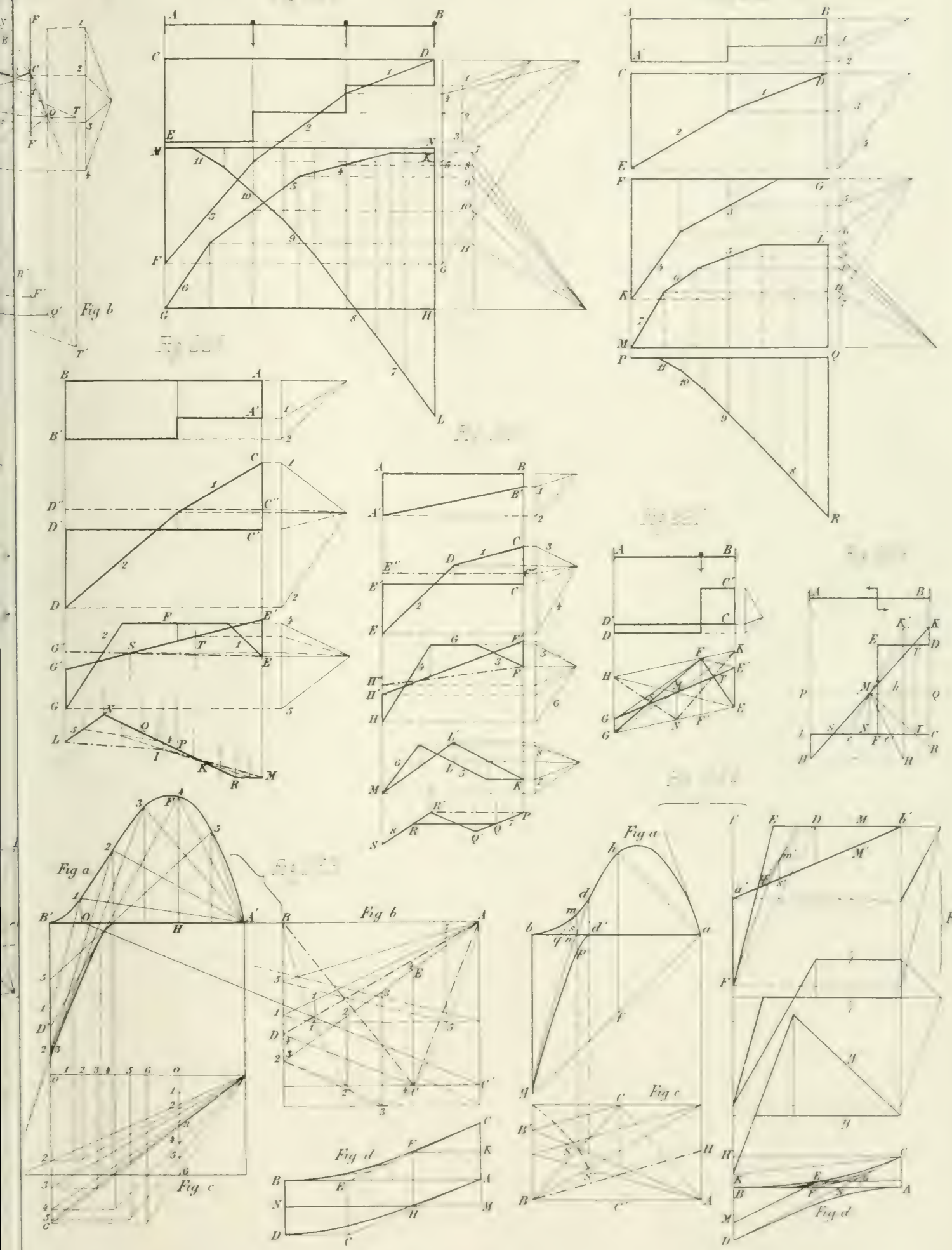
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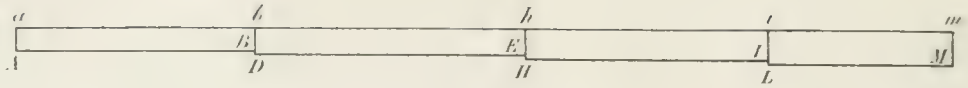
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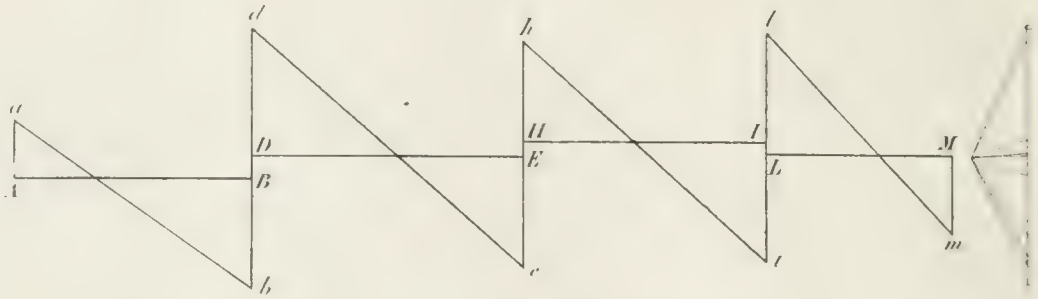
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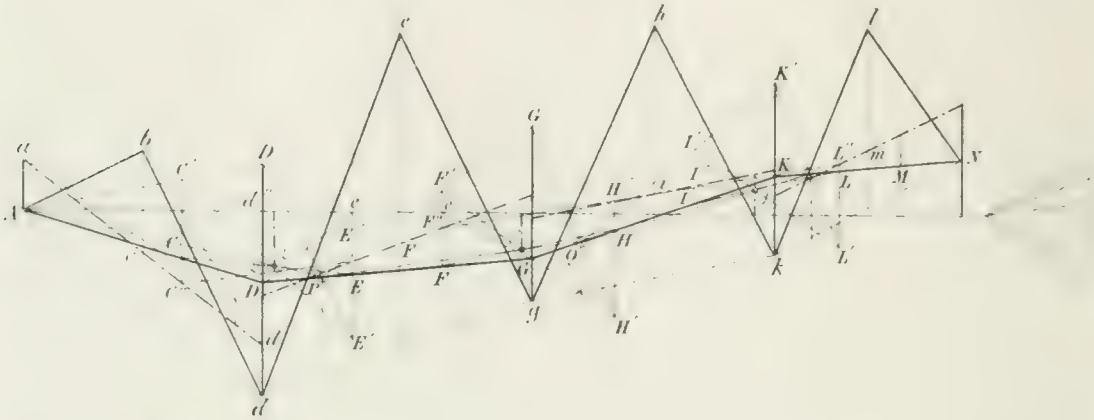
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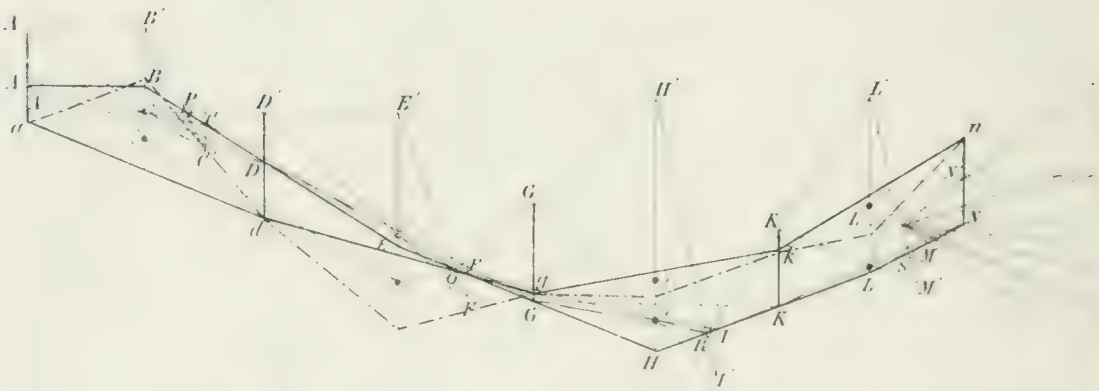
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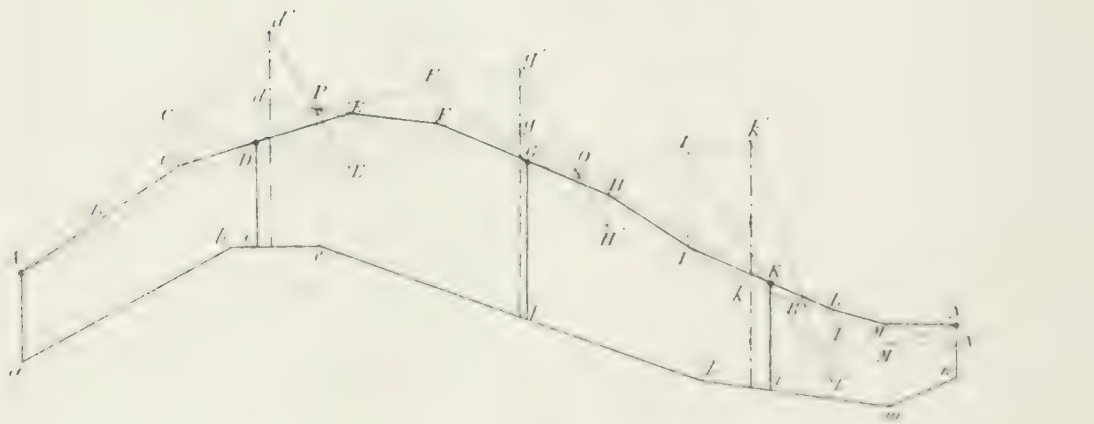
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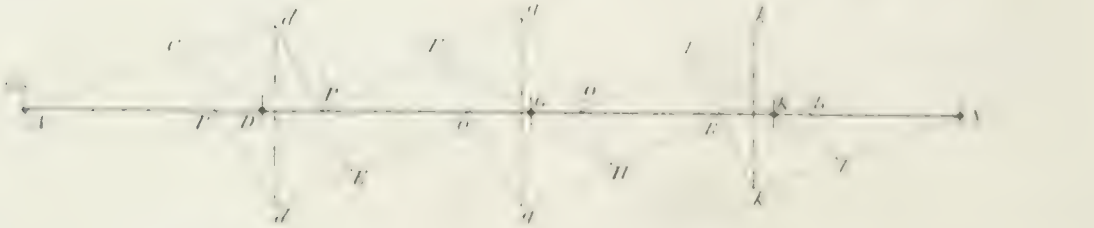
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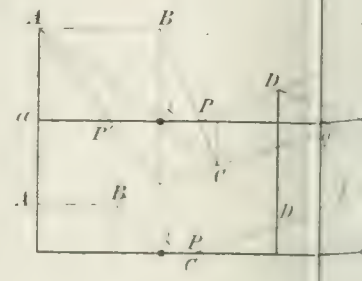
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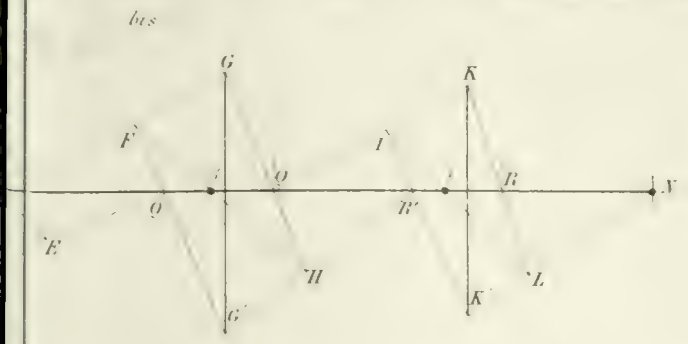

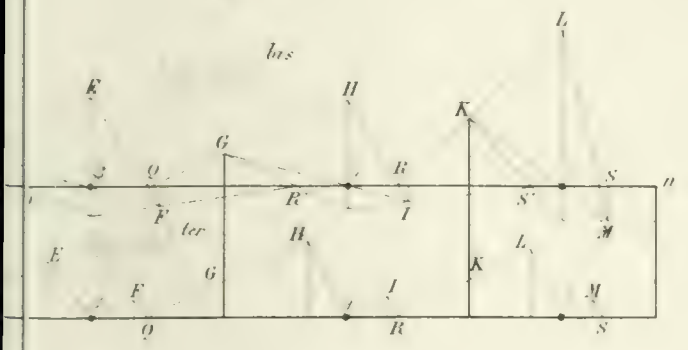

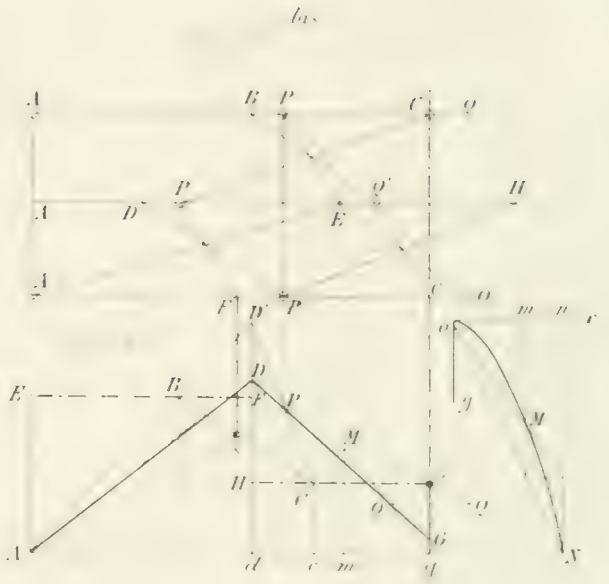

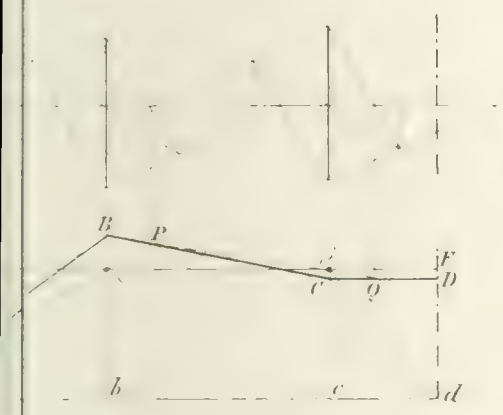

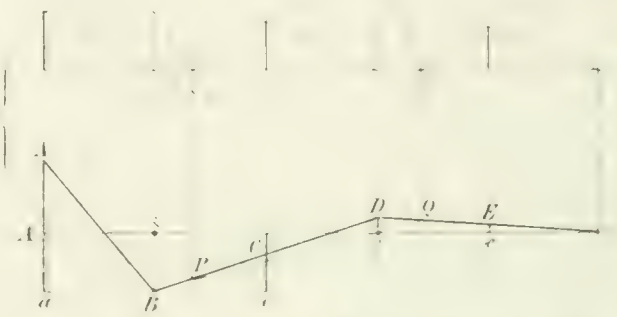

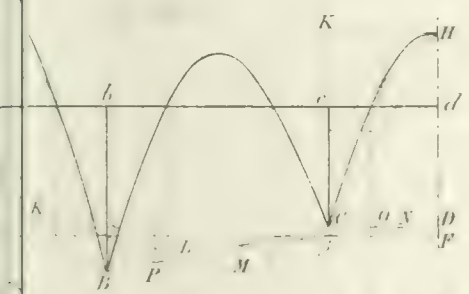

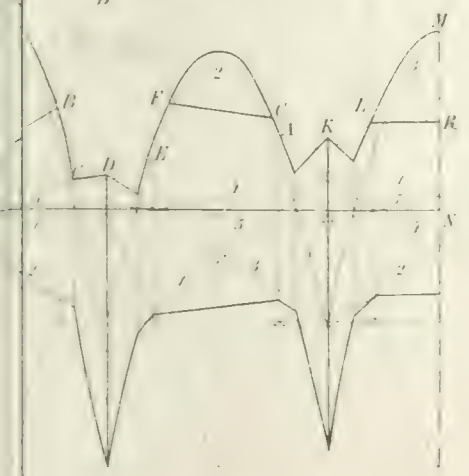

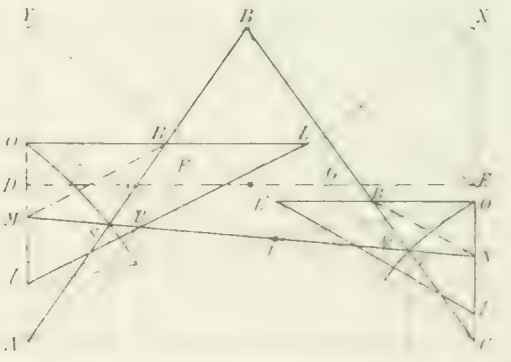

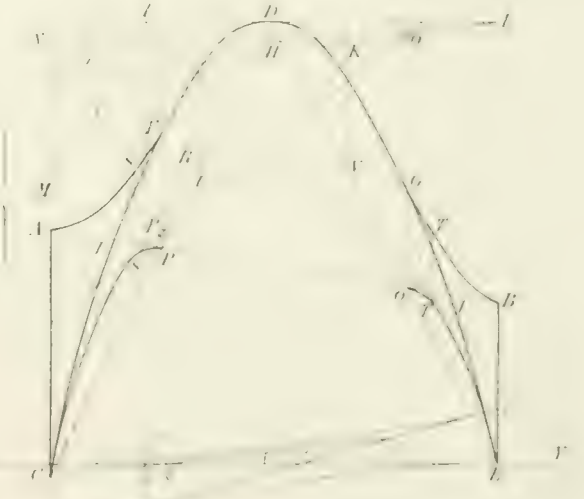

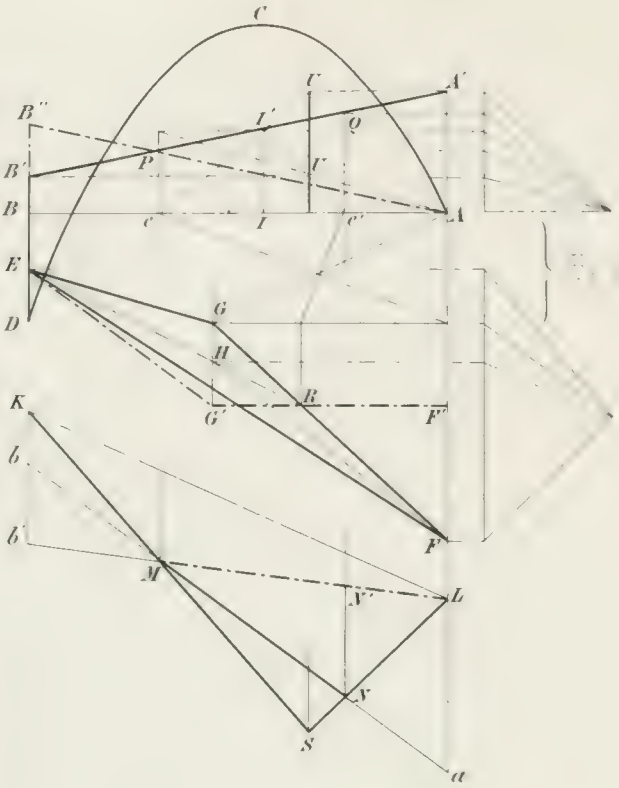

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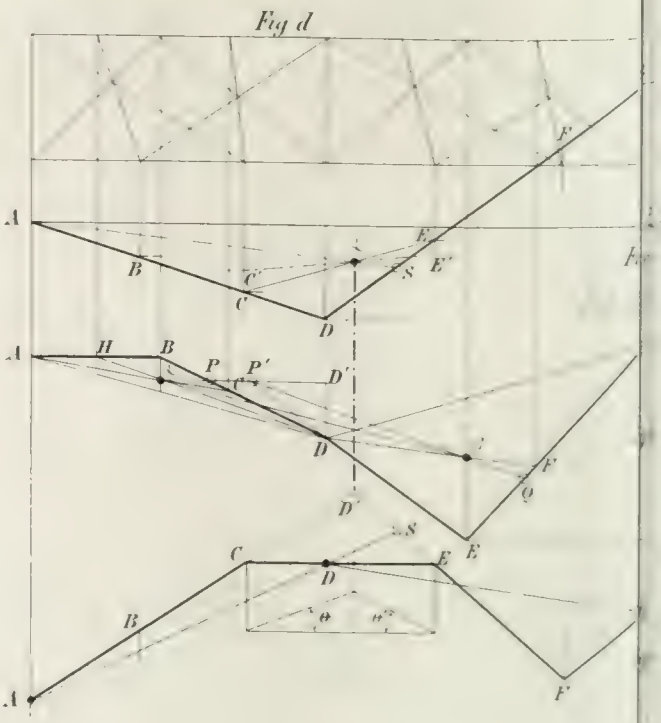

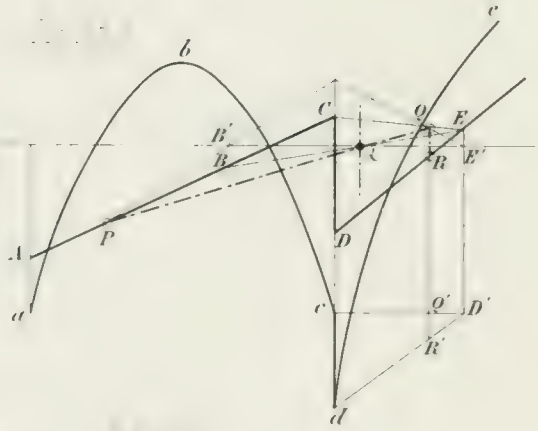

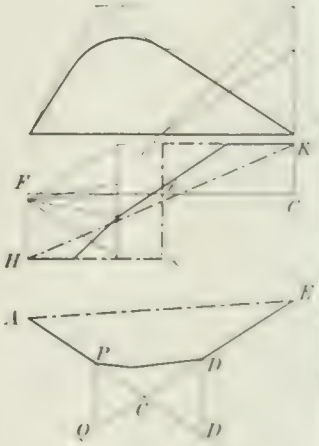

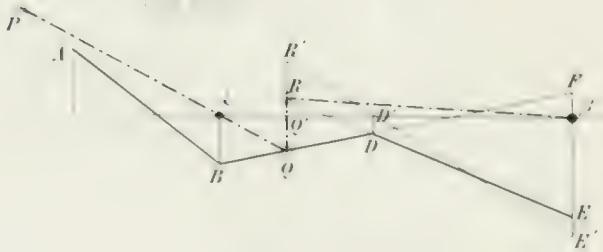

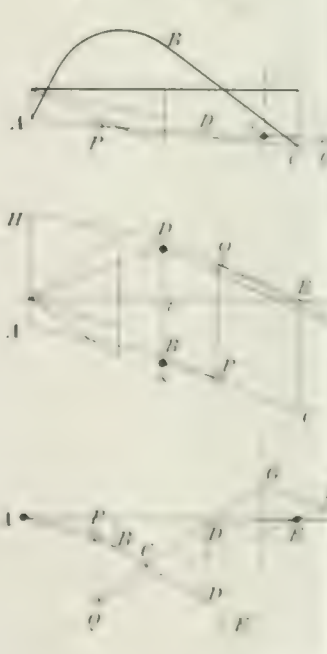

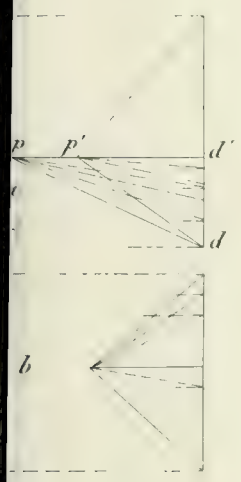

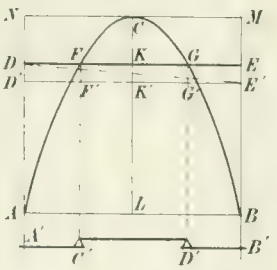

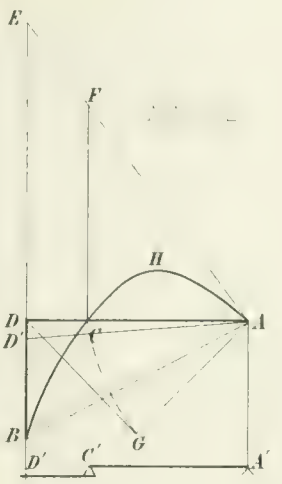

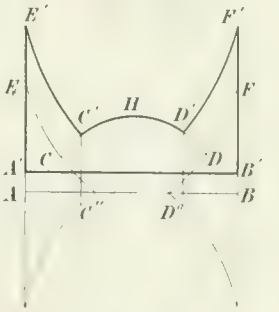

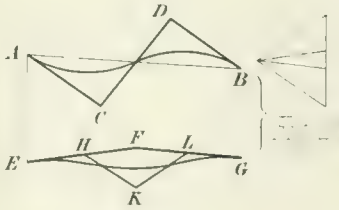

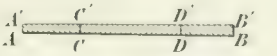

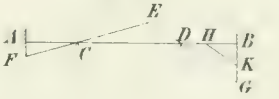

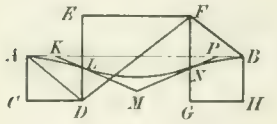

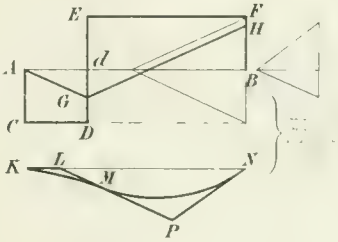

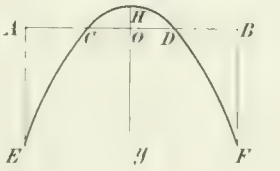

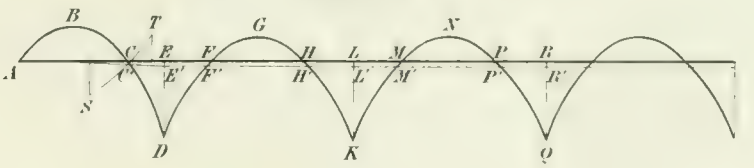

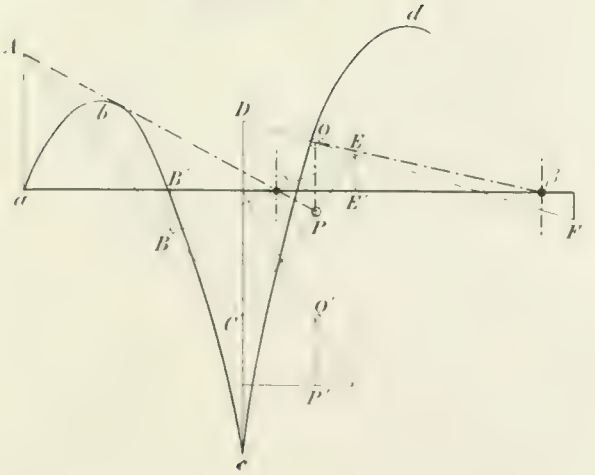

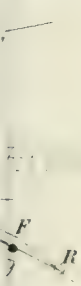

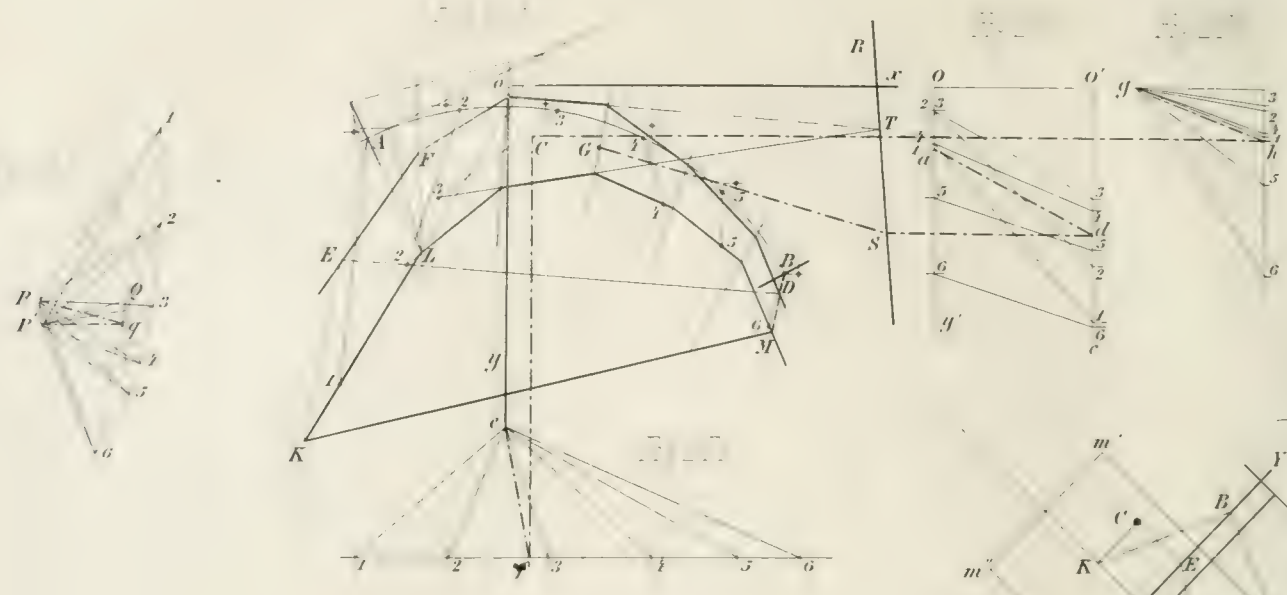

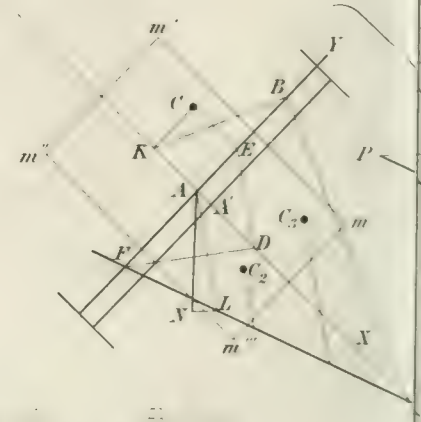

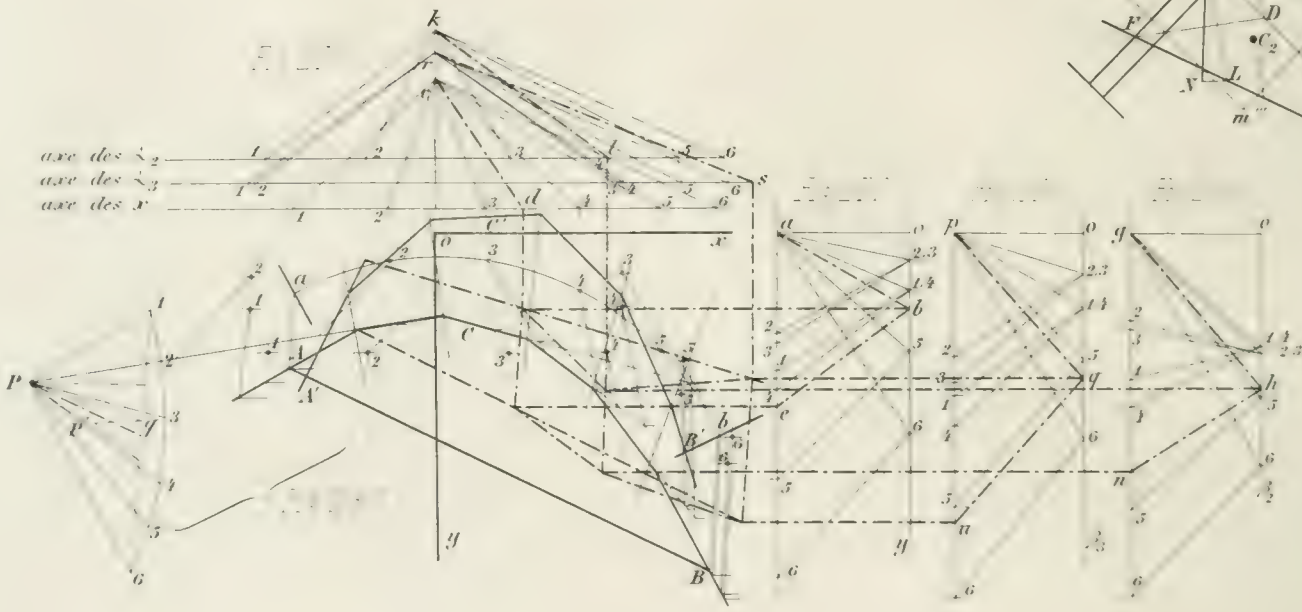
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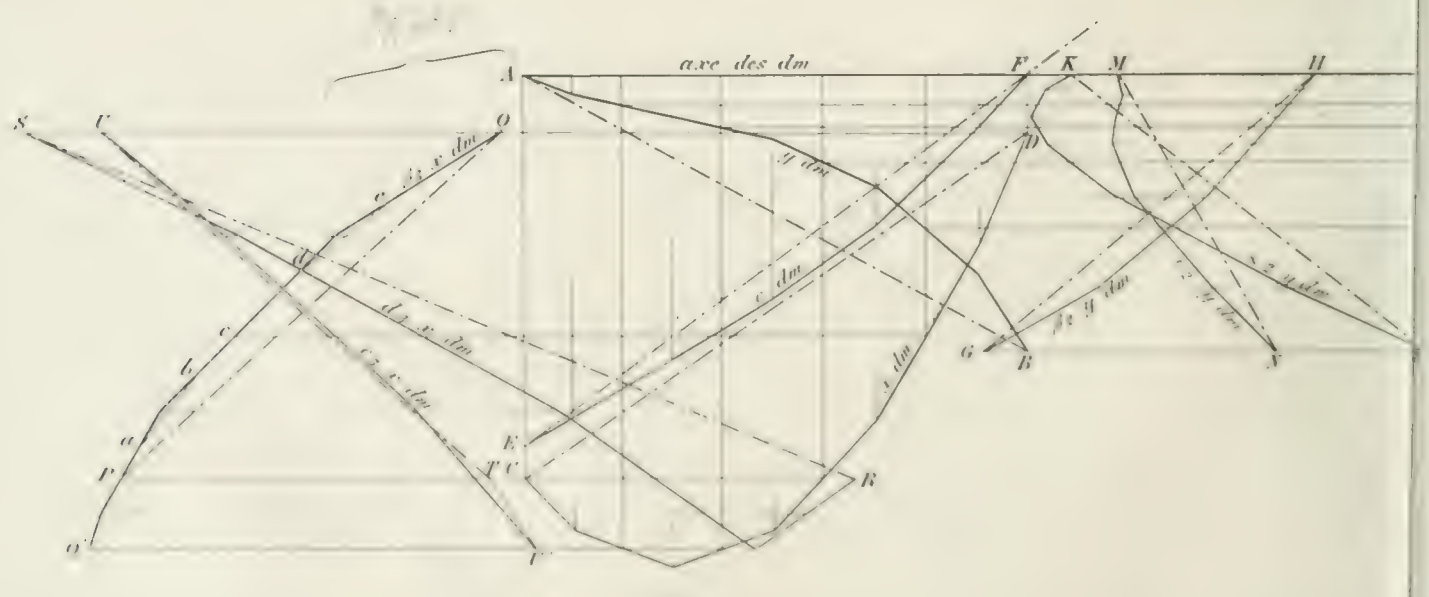
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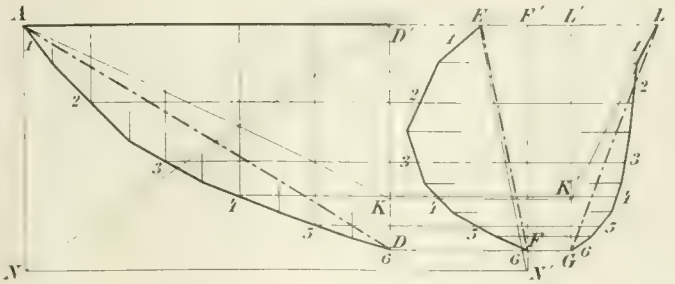

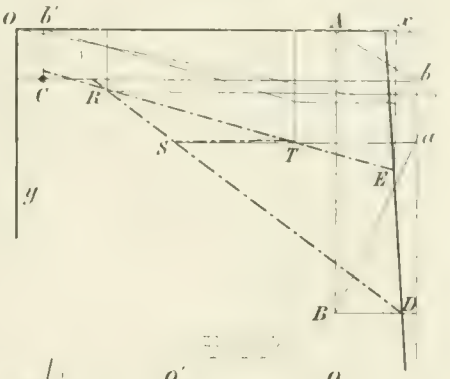

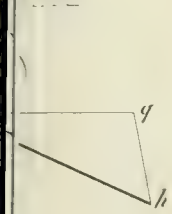

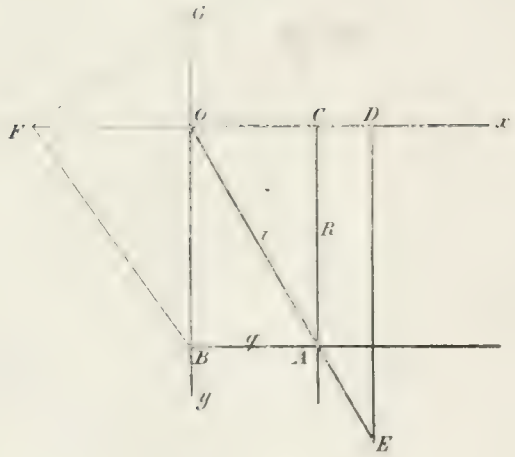
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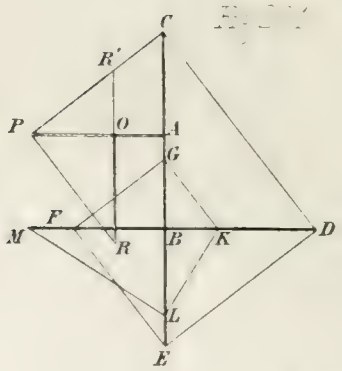
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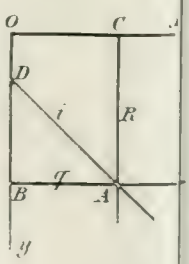
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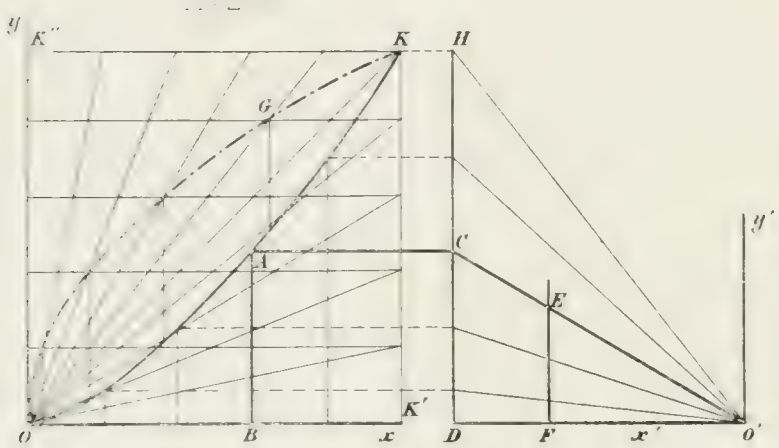
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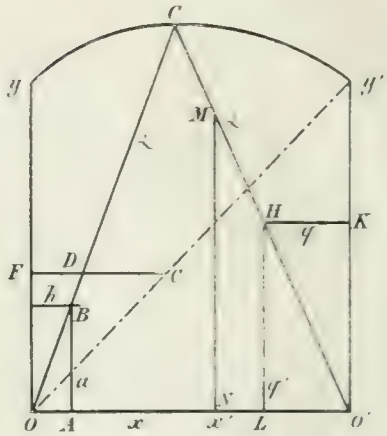
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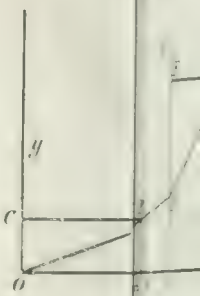
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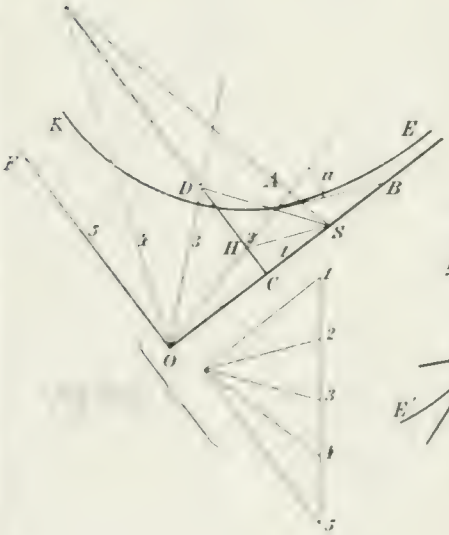
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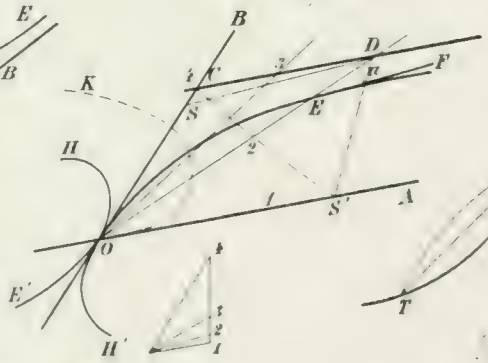
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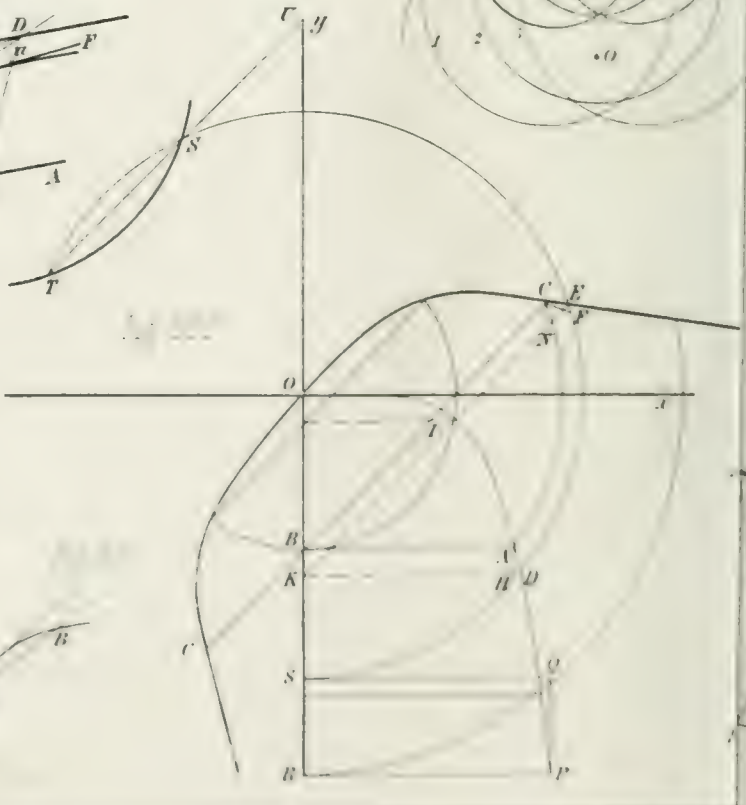
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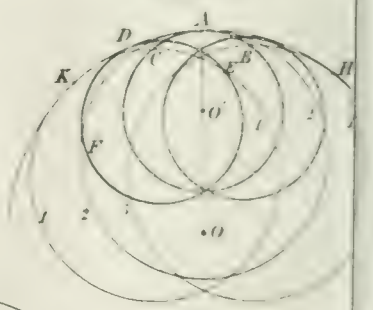
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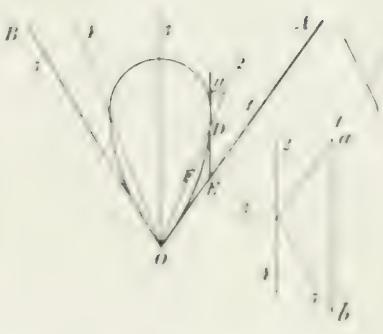
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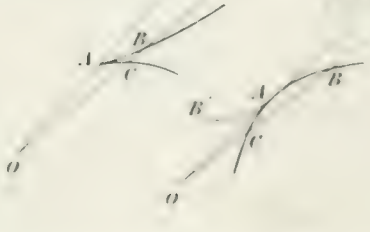
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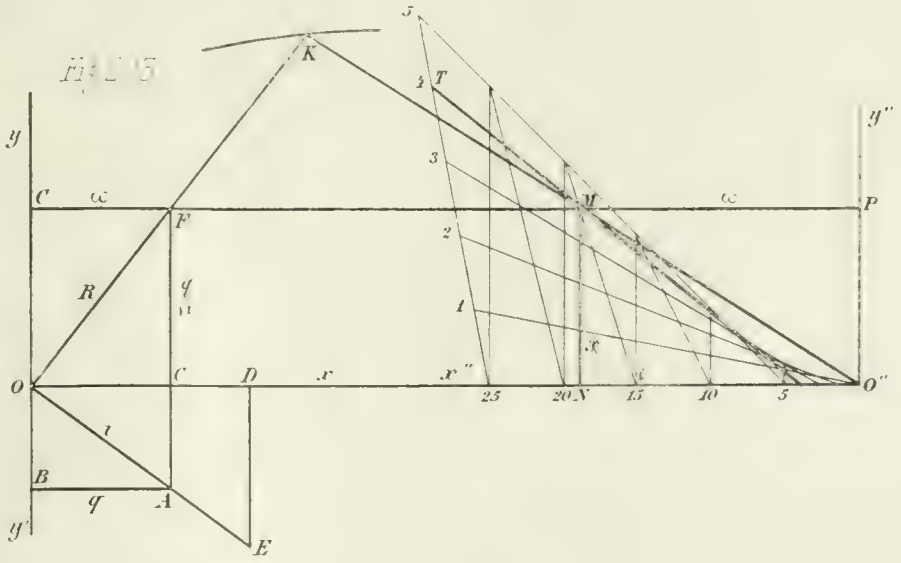
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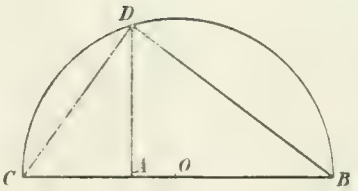
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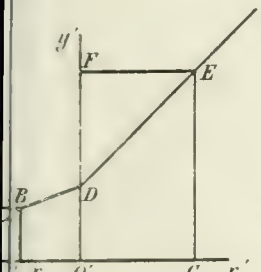
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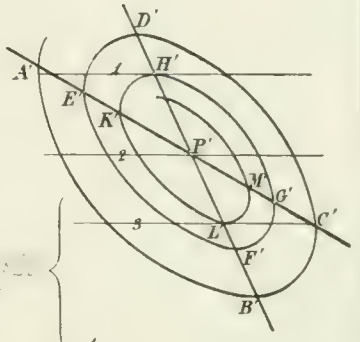
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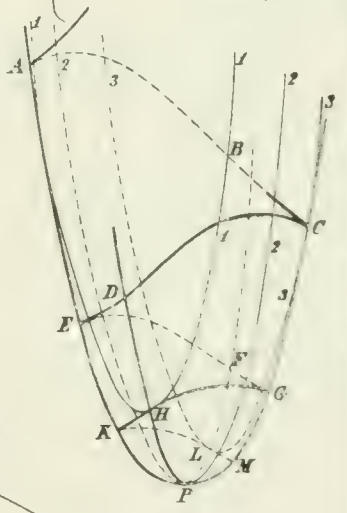
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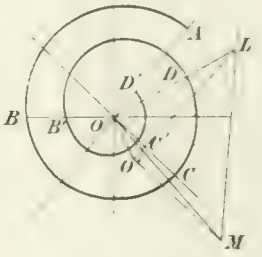
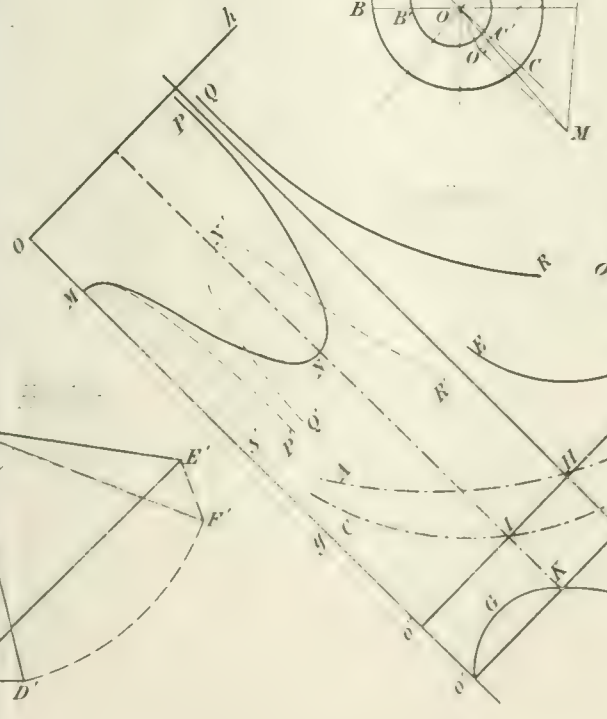

A
L
D'
D
B
B'
O
O'
C'
C
M


h
Q
P
O
M
R
E
F
h'
B
D
H
K
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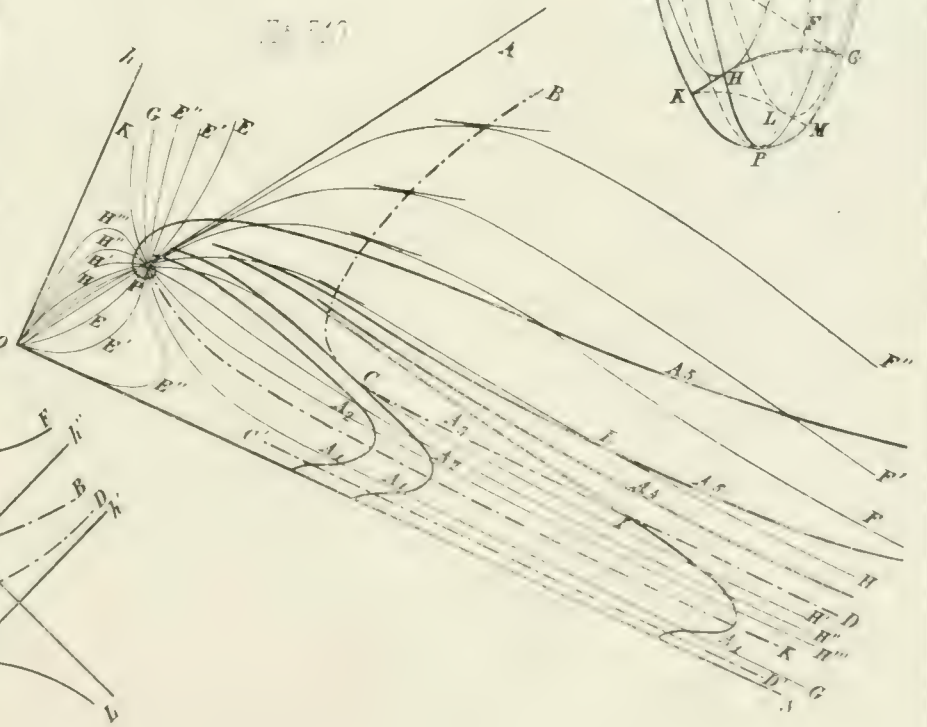
y


h
A
B
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E''
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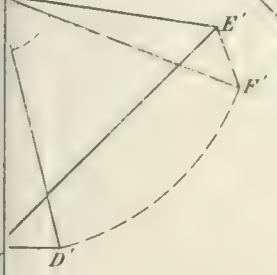
D'


E'
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